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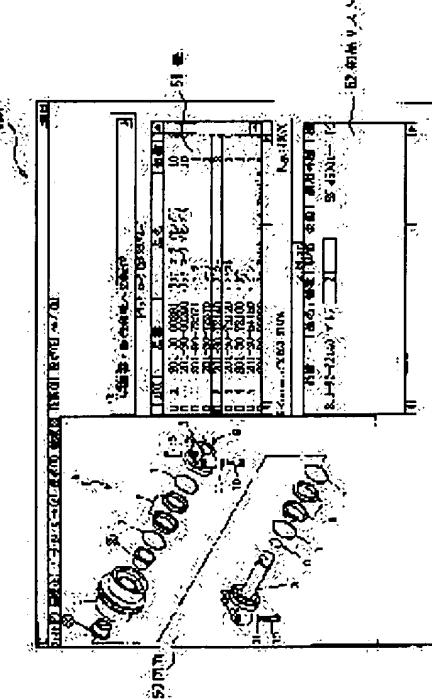
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(54) SYSTEM FOR AND METHOD OF PREPARATION OF PARTS SPECIFICATION AND STORAGE MEDIUM, WHICH STORES COMPUTER PROGRAM THAT PRACTICES METHOD OF PREPARATION OF PARTS SPECIFICATION

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a system for preparation of parts specification that can prepare a parts specification quick and accurate.

SOLUTION: In this system, when a parts specification that is attached to a request for quotation and order form is prepared, all user needs to do is to display the drawing numbers 50, on which necessary parts are drawn, on the display 40A of online terminal of client and is to choose appropriate parts from among the drawing number 50 by using a mouse, etc. By doing this, parts specification is prepared automatically from selected parts numbers, etc. Therefore, such troublesome works that user finds out part number and name, or transcribes them from parts list can be cut out and the job can be made efficient.



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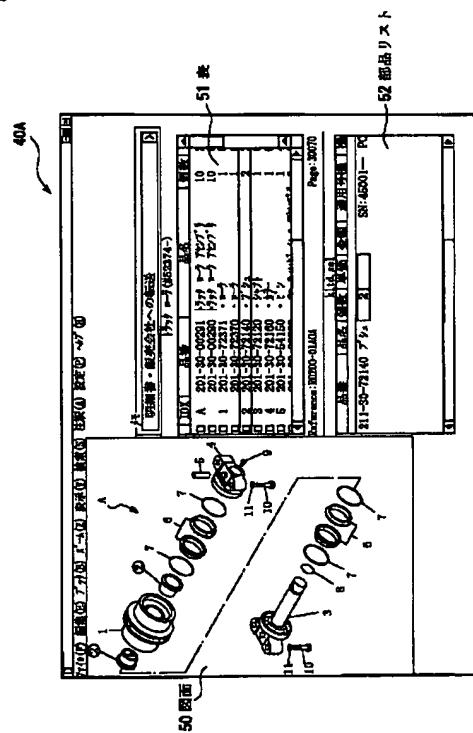
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(54)【発明の名称】 部品明細書作成システム、および部品明細書作成方法、ならびに部品明細書作成方法を実行させ

(57)【要約】 るコンピュータプログラムを記憶した記憶媒体

【課題】 部品明細書を迅速かつ正確に作成できる部品明細書作成システムを提供すること。

【解決手段】 部品明細書作成システムでは、部品の見積依頼書や注文書に用いる部品明細書を作成するにあたり、ユーザーは、必要な部品が描かれている図面50をクライアント端末のディスプレイ40A上に表示させ、この図面50の中から当該部品をマウス等で選択すればよく、選択された部品の品番等から部品明細書を自動的に作成できる。従って、部品の品番や名称等をペーツリストから探し出したり、ペーツリストから転記するといった煩わしい作業を省くことができ、業務を効率化できる。



【特許請求の範囲】

【請求項 1】 部品を示す図面の図面データと前記部品の部品情報を含んで構築されたデータベースを記憶しておく手段と、部品明細書の作成に必要な部品の図面データを呼び出す手段と、当該図面データに基づく図面を画面に表示させる手段と、表示された図面の中から前記部品を選択する手段と、選択された部品の図面データに対応する部品情報を前記データベースから呼び出す手段と、呼び出された部品情報をリスト化して前記図面と同時に前記画面に表示させる手段と、この部品のリストに基づいて前記部品明細書を自動的に作成する手段とを備えていることを特徴とする部品明細書作成システム。

【請求項 2】 ネットワークを介して接続されたネットワークサーバおよびネットワーク端末を備えた部品明細書作成システムであって、

前記ネットワークサーバは、

(A)部品を示す図面の図面名称と、前記図面の図面データと、前記部品の部品情報とが記憶されたサーバ側記憶手段、

(B)前記ネットワーク端末で選択された任意の図面名称を取得する図面名称取得手段、

(C)取得した前記図面名称に対応した図面データと、前記図面名称の図面に描かれた部品の部品情報を前記サーバ側記憶手段から検索する情報検索手段、

(D)検索した図面データおよび部品情報を前記ネットワーク端末に出力し、かつ当該図面データに基づく図面を前記ネットワーク端末の表示装置に表示させる情報出力手段を備え、

前記ネットワーク端末は、

(a)前記ネットワークサーバから出力された図面データと、前記部品情報とが記憶された端末側記憶手段、

(b)表示装置に表示された前記図面上で選択された部品に関する図面データを取得する図面情報取得手段、

(c)取得した図面データに対応した部品情報を前記端末側記憶手段から検索する部品リスト作成手段、

(d)検索された部品情報を前記表示装置に出力し、前記図面と同時に表示される部品リスト内に組み込む部品リスト出力手段、

(e)前記部品リスト内の部品情報に基づいて部品明細書を作成する部品明細書作成手段、
を備えていることを特徴とする部品明細書作成システム。

【請求項 3】 請求項 2 に記載の部品明細書作成システムにおいて、前記ネットワーク端末は、複数の部品のいずれかの部品情報と、これらの部品で構成されるアセンブリ部品の部品情報とが選択された際に、前記アセンブリ部品の部品情報のみを取得する二重取得防止手段を備えていることを特徴とする部品明細書作成システム。

【請求項 4】 請求項 2 または請求項 3 に記載の部品明細書作成システムにおいて、前記サーバ側記憶手段に

は、部品毎の価格からなる価格テーブルと、部品毎の在庫情報からなる在庫テーブルとが記憶されているとともに、前記ネットワークサーバは、前記部品明細書の部品に関する価格情報および在庫情報を前記価格テーブルおよび在庫テーブルから検索して当該部品明細書に反映させる回答情報反映手段を備えていることを特徴とする部品明細書作成システム。

【請求項 5】 請求項 2 ないし請求項 4 のいずれかに記載の部品明細書作成システムにおいて、前記ネットワークサーバは、前記ネットワーク端末との通信距離が異なる少なくとも 2 台用意され、前記ネットワーク端末は、通信距離の近い一方のネットワークサーバにアクセスすることを特徴とする部品明細書作成システム。

【請求項 6】 請求項 5 に記載の部品明細書作成システムにおいて、通信距離の近いネットワークサーバは、通信距離の遠いネットワークサーバの図面データおよび/または部品情報の変更の有無を監視し、かつ変更があった場合に自身の図面データおよび/または部品情報を更新する更新手段を備えていることを特徴とする部品明細書作成システム。

【請求項 7】 請求項 1 ないし請求項 6 のいずれかに記載の部品明細書作成システムにおいて、前記部品は建設機械の構成部品であることを特徴とする部品明細書作成システム。

【請求項 8】 部品を示す図面の図面データと前記部品の部品情報を含んで構築されたデータベースから、部品明細書の作成に必要な部品の図面データを呼び出すとともに、当該図面データに基づく図面を画面に表示させ、表示された図面の中から前記部品を選択した後、選択された部品の図面データに対応する部品情報を前記データベースから呼び出し、呼び出された部品情報をリスト化して前記図面と同時に前記画面に表示させ、この部品のリストに基づいて前記部品明細書を自動的に作成することを特徴とする部品明細書作成方法。

【請求項 9】 請求項 8 に記載の部品明細書作成方法を実行させるコンピュータプログラムを記憶したことを特徴とする記憶媒体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本発明は、例えば、建設機械を構成する部品の見積依頼や発注等に用いられる部品明細書の作成システム、および部品明細書作成方法、ならびに部品明細書作成方法を実行させるコンピュータプログラムを記憶した記憶媒体に関する。

【0002】

【背景技術】 従来より、ホイルローダやブルドーザ等の建設機械が知られている。このような建設機械の故障や定期的な検査に伴う部品の交換の際には、建設機械販売会社等から部品を購入する必要がある。部品を購入するにあたっては、先ず建設機械を所有するユーザー側から

販売会社に対して見積依頼を行う。販売会社側は、ユーザーからの見積依頼を受けて自己あるいはメーカー側の在庫数や部品単価の確認を行った後、見積書を作成してユーザー側に送付する。この後、見積書に応じて、ユーザー側から販売店へ注文書が発行される。また、状況によつては、部品をメーカー側から直に購入する場合もあるが、このような場合でも、ユーザー側はメーカー側に対して見積を依頼するのが通常である。

【0003】

【発明が解決しようとする課題】ところで、ユーザー側の見積依頼書としては、必要な部品の部品明細書が添付されたり、この部品明細書自身が見積依頼書の形態を成している場合が一般的である。この部品明細書には、見積の対象である部品の名称、品番、個数などの部品情報が記載される。

【0004】しかしながら、部品明細書を作成するのにには、数百ページにも及ぶパーティリスト等のドキュメントの中から、該当する部品の部品名称や品番等を調べる必要があり、この作業に多大な手間を要するという問題がある。また、建設機械は仕様の異なるモデルが数多く存在することや、極めて多数の部品から構成されていることにより、一見同じ部品でも品番が異なったり、類似した品番が多いうえ、品番の桁数も多く、品番の選択ミスや部品明細書への転記ミスが生じ易いといった問題もある。そして、このような問題は、建設機械を構成する部品に限らず、他の機械や機器類、自動車、住宅、レジャー用品、生活必需品等のあらゆる分野の部品に関して生じる可能性がある。

【0005】本発明の目的は、部品明細書を迅速かつ正確に作成できる部品明細書作成システムを提供することにある。

【0006】

【課題を解決するための手段】本発明の請求項1の部品明細書作成システムは、部品を示す図面の図面データと前記部品の部品情報とを含んで構築されたデータベースを記憶しておく手段と、部品明細書の作成に必要な部品の図面データを呼び出す手段と、当該図面データに基づく図面を画面に表示させる手段と、表示された図面の中から前記部品を選択する手段と、選択された部品の図面データに対応する部品情報を前記データベースから呼び出す手段と、呼び出された部品情報をリスト化して前記図面と同時に前記画面に表示させる手段と、この部品のリストに基づいて前記部品明細書を自動的に作成する手段とを備えていることを特徴とする。ここで、「図面データ」には、画像データも含まれる。従つて、「図面」には、画像データによる画像も含まれる。以下に記載の図面データおよび図面についても同じである。

【0007】このような本願発明においては、データベースに記憶された図面データを呼び出してディスプレイ等に部品の図面を表示させた後、この図面上から部品を

選択して部品リスト上に画面上で作成するだけでよいから、部品の品番番号をドキュメントから探し出したり、転記する必要がなく、部品明細書作成が迅速かつ正確に行われるようになる。

【0008】請求項2の部品明細書作成システムは、ネットワークを介して接続されたネットワークサーバおよびネットワーク端末を備えたシステムであつて、前記ネットワークサーバは、(A)部品を示す図面の図面名称と、前記図面の図面データと、前記部品の部品情報とが記憶されたサーバ側記憶手段、(B)前記ネットワーク端末で選択された任意の図面名称を取得する図面名称取得手段、(C)取得した前記図面名称に対応した図面データと、前記図面名称の図面に描かれた部品の部品情報とを前記サーバ側記憶手段から検索する情報検索手段、(D)検索した図面データおよび部品情報を前記ネットワーク端末に出力し、かつ当該図面データに基づく図面を前記ネットワーク端末の表示装置に表示させる情報出力手段を備え、前記ネットワーク端末は、(a)前記ネットワークサーバから出力された図面データと、前記部品情報とが記憶された端末側記憶手段、(b)表示装置に表示された前記図面上から、選択された部品に関する図面データを取得する図面情報取得手段、(c)取得した図面データに対応した部品情報を前記端末側記憶手段から検索する部品リスト作成手段、(d)検索された部品情報を前記表示装置に出力し、前記図面と同時に表示される部品リスト内に組み込む部品リスト出力手段、(e)前記部品リスト内の部品情報に基づいて部品明細書を作成する部品明細書作成手段、を備えていることを特徴とする。

【0009】このような構成のネットワークサーバは、ユーザーが選択した図面の図面データをユーザー側のネットワーク端末に出力し、ネットワーク端末の例ええばディスプレイ等の画面上に図面を表示させる。ユーザーは必要な部品を画面上の図面の中から見出し、該当する部品をマウス等で選択する。すると、ネットワーク端末は、選択した部品の図面データに基づいて部品情報を検索し、検索した部品情報をディスプレイの画面上に部品リストとして表示するとともに、このリストに基づいて部品明細書を作成する。

【0010】従つて、以上のようなユーザー側の操作においても、部品明細書として利用可能な部品リストを表示させるには、画面上の図面を見ながら必要な部品を選択すればよいから、やはり、煩わしい品番等を扱う用途がなく、品番等の選択ミスや転記ミスが防止される。このため、部品明細書作成が迅速かつ正確に行われ、これに伴つて見積業務等の作業効率も向上する。また、このような部品明細書をネットワーク上のネットワークサーバに送信することにより、部品明細書を販売店やメーカー側の端末で受け取ることも可能であり、見積依頼に対する見積書作成等の作業も効率よく行えるようになる。

【0011】請求項3の部品明細書作成システムでは、

前記ネットワーク端末は複数の部品のいずれかの部品情報と、これらの部品で構成されるアセンブリ部品の部品情報とが選択された際に、前記アセンブリ部品の部品情報のみを取得する二重取得防止手段を備えていることを特徴とする。アセンブリ部品を構成する複数の部品はいわゆる小部品であるが、これらの小部品の部品情報を選択したにもかかわらず、これらの上位にあるアセンブリ部品の部品情報をも選択すると、小部品が二重に選択されることになる。そこで、本発明においては、小部品の部品情報とアセンブリ部品の部品情報との両方が選択された場合に、アセンブリ部品側の選択のみを受け付けるように構成した。これにより、小部品の二重取得が防止され、確実な部品明細書の作成および部品手配が行われるようになる。

【0012】請求項4の部品明細書作成システムでは、前記サーバ側記憶手段には、部品毎の価格情報からなる価格テーブルと、部品毎の在庫情報からなる在庫テーブルとが記憶されているとともに、前記ネットワークサーバは、前記部品明細書の部品に関する価格情報および在庫情報を前記価格テーブルおよび在庫テーブルから検索して当該部品明細書に反映させる回答情報反映手段を備えていることを特徴とする。このような構成では、在庫情報や価格情報は、ネットワークサーバの記憶手から容易に取得されるうえ、このような情報を部品明細書に反映させることにより、例えば、見積書依頼に対する見積書作成が容易に行えるようになる。

【0013】請求項5の部品明細書作成システムでは、前記ネットワークサーバは、前記ネットワーク端末との通信距離が異なる少なくとも2台用意され、前記ネットワーク端末は、通信距離の近い一方のネットワークサーバにアクセスすることを特徴とする。このような構成では、互いに通信距離の近いネットワーク端末とネットワークサーバとの間で本システムが用いられるから、レスポンスが良好となり、図面等の表示速度が速まる。また、両方のサーバに同様な機能を持たせておけば、一方のネットワークサーバがダウンした場合でも、他方のネットワークサーバがバックアップサーバとして機能するため、業務遂行に支障を來す心配がない。

【0014】請求項6の部品明細書作成システムでは、通信距離の近いネットワークサーバは、通信距離の遠いネットワークサーバの図面データおよび／または部品情報の変更の有無を監視し、かつ変更があった場合に自身の図面データルおよび／または部品情報を更新する更新手段を備えていることを特徴とする。このような構成では、ネットワーク端末がアクセスする近距離側のネットワークサーバにおいても、図面データおよび部品情報が常に最新のものに更新されるから、例えば、部品情報に変更があった場合でも、ユーザーが図面上から部品を選択すると、この部品の最新の部品情報が部品リストに確実にリストアップされる。

【0015】請求項1の部品明細書作成システムでは、前記部品は建設機械の構成部品であり、特に部品点数が多く、品番等の部品情報も紛らわしい建設機械の部品において本システムを利用することは、業務改善にのために一段と有効である。

【0016】請求項8の部品明細書作成方法は、部品を示す図面の図面データと前記部品の部品情報を含んで構築されたデータベースから、部品明細書の作成に必要な部品の図面データを呼び出すとともに、当該図面データに基づく図面を画面に表示させ、表示された図面の中から前記部品を選択した後、選択された部品の図面データに対応する部品情報を前記データベースから呼び出し、呼び出された部品情報をリスト化して前記図面とともに前記画面に表示させ、この部品のリストに基づいて前記部品明細書を自動的に作成することを特徴とする。このような作成方法は、前記請求項1に記載のシステム等を用いて実現可能であり、本発明の目的が達成される。

【0017】請求項9の記憶媒体は、前記請求項8に記載の部品明細書作成方法を実行させるコンピュータプログラムを記憶したことを特徴とする。このようなコンピュータプログラムを用いて請求項1のシステムを実行させることにより、本発明の目的が達成される。

【0018】

【発明の実施の形態】以下、本発明の一実施形態を図面に基づいて説明する。

【システムの概要】図1は、本実施形態に係る部品明細書作成システム1の概略全体を模式的に示す図である。部品明細書作成システム1は、建設機械を構成する部品の部品明細書を作成するシステムであって、建設機械を所有するユーザーと、建設機械自体やその部品を販売する販売会社で専ら利用される。具体的には、ユーザー側においては、販売会社への部品の見積依頼や注文時の部品明細書を作成するのに利用され、販売会社側においては、ユーザーからの依頼に対する見積回答やメーカーへの部品発注時の部品明細書を作成するのに利用される。

【0019】このような部品明細書作成システム1は、建設機械メーカー内に構築された専用の通信回路網からなるメーカー内インターネット2、販売会社内に構築された同様な販社内インターネット3、公衆の通信回路網を利用したインターネット4等のコンピュータネットワークを利用して実現されている。

【0020】メーカー内インターネット2には、メーカー側のホストコンピュータ20と、複数の販社内インターネット3が接続されている。ホストコンピュータ20は、部品明細書作成システム1として必要な種々の情報やデータを供給するメーカー内インターネット2上のネットワークサーバとして機能する。メーカー内インターネット2には、図示しない複数のメーカー側のネットワーク端末が接続されている。

【0021】販社内イン...ネット3には、ネットワークサーバとしての販社側サーバ30と、複数のユーザー側のネットワーク端末（以下、クライアント端末といふ）40、40…が接続されている。販社側サーバ30も、部品明細書作成システム1として必要な種々の情報やデータを供給するサーバであつて、ホストコンピュータ20と略同様な機能を備えている。このような販社内インターネット3にも、図示しない複数の販売会社用のネットワーク端末が接続されている。

【0022】ここで、ホストコンピュータ20はクライアント端末40からの通信距離が遠いサーバであり、販社側サーバ30は通信距離の近いサーバである。クライアント端末40は通常、通信距離の近い販社側サーバ30にアクセスする。つまり、近距離にある販社側サーバ30がホストコンピュータ20のいわゆるクローンサーバとして機能することで、レスポンスの良好な状態で部品明細書作成システム1を利用することが可能である。

【0023】このホストコンピュータ20、販社側サーバ30、クライアント端末40は、各ネットワークに対応可能なブラウザ（ビューア）を備えている。従って、本システム1の利用認証を有し、かつこのブラウザや明細書作成用のソフトがインストールされていれば、例えば、各インターネット2、3に接続されておらず、インターネット4のみに接続可能なクライアント端末40'等からも、プロバイダを介してホストコンピュータ20および販社側サーバ30にアクセスでき、部品明細書作成システム1を利用することが可能である。

【0024】また、ホストコンピュータ20および販社側サーバ30は、メールサーバの機能も有している。各インターネット2、3に接続された図示しないメーカー側の端末、販売会社側の端末、およびクライアント端末40には、それぞれメールソフトがインストールされており、各サイトで作成した部品明細書を各サイトの端末間相互で送受信することが可能になっている。

【0025】〔販社側サーバ〕以下には先ず、クライアント端末40が主にアクセスする販社側サーバ30の構成および機能について先に説明する。図2において、販社側サーバ30は、ネットワークから信号を取得する取得手段31と、この取得手段31で取得した信号に応じて所定の制御を行う制御手段32と、制御手段32での結果に応じた信号をネットワークに出力する出力手段33と、種々の情報およびデータやプログラムが蓄積された記憶手段34と、作成した部品明細書を送受信する部品明細書受送信手段35とで構成されている。このうち、取得手段31、制御手段32、および出力手段33は、CPU等で実行されるコンピュータプログラム（ソフトウェア）からなり、特に部品明細書受送信手段35は前述したメールソフトからなる。

【0026】本実施形態に特徴的な構成として、取得手段31は、モデル名称取得手段311、機種名称取得手

段312、装置名...得手段313、図面名称取得手段314を備えている。制御手段32は、機種検索手段321、装置検索手段322、情報検索手段323、更新手段324を備えている。出力手段33は、モデル名称出力手段331、機種名称出力手段332、装置名称出力手段333、情報出力手段334を備えている。これらの手段の機能については後述する。

【0027】記憶手段34は記憶媒体としてのハードディスク等からなり、この記憶手段34には、従来のパーティリスト等に記載された内容が電子情報として記憶されており、本実施形態に特徴的な情報やデータとして、図3ないし図8に示すように、モデルテーブル341、機種テーブル342、装置テーブル343、図テーブル344、部品テーブル345、A'ssyテーブル346が記憶されている。この他、コンピュータプログラムである前記各手段31、32、33、35もこの記憶手段34に記憶されている。

【0028】図3において、モデルテーブル341には、「クレー」、「ブルドーザ小型」、「ブルドーザ大型」…等の建設機械を大別したモデル名称が格納されている。図4において、機種テーブル342には、前記モデル毎に機種の名称が格納されている。例えば、「油圧ショベル中型」のモデルの中には、「PC100-6 S/N 40001-UP」、「PC100L-6 S/N 15001-UP」…の機種が存在する。

【0029】図5において、装置テーブル343には、機種毎にこれを構成する装置の名称が格納されている。例えば、「PC100-6 S/N 40001-UP」の機種は、「燃料タンクおよび関連部品」、「電気系統」…の装置で構成されている。図6において、図テーブル344には、前記装置が描かれた複数の図面の名称と、各図面の図面データとが格納されている。例えば、「足回り」の装置は、「トラックシャー(ハイカタイプ)」、「トラックシャー(トリップル'ローサナウキ)(#31152)」…といった複数の名称の図面に描かれていることになる。なお、本実施形態では、図面データはビットマップ形式のファイルとして格納されている。

【0030】図7において、部品テーブル345には、前記図面に描かれた全ての部品の部品情報である品番、名称、および個数等が所定のインデックス情報に対応して格納されている。例えば、足回りの装置を示す「トラックローラ(#52374-)」の名称の図面には、「201-30-00291」、「201-30-72371」…の部品が描かれており、それには「A」、「1」…のインデックス情報が付与されている。なお、部品テーブル345において、同一名称で品番の異なる部品がある場合、インデックス情報が付与されているものが最新の品番であり、付与されていないのは旧番である。

【0031】図8において、A'ssyテーブル346には、アセンブリ部品毎の小部品の品番および名称が格納されている。例えば、前記部品テーブル345でも示し

た「201-30-00291」はアーチングリ部品であり、「201-30-72371」、「201-30-72371」、「201-30-72410」…の小部品で構成されていることを意味する。

【0032】[ホストコンピュータ]一方、ホストコンピュータ20は、図9に示すように、販社側サーバ30と略同様な取得手段21、制御手段22、出力手段23、記憶媒体としてのハードディスク等からなる記憶手段24、メールソフトである部品明細書受送信手段25を基本的に有している。加えて、ホストコンピュータ20の制御手段22は回答情報反映手段221を備えている。回答情報反映手段221の機能については後述する。

【0033】また、記憶手段24には、販社側サーバ30と同様な各テーブルに加え、図10に示す価格テーブル241が記憶されている。価格テーブル241には、建設機械を構成する全部品の品番および名称に対応してその価格が格納されている。さらに、記憶手段24には、在庫テーブル242(図15)が記憶されている。在庫テーブルには、図示を省略するが、メーカーが保有している部品の在庫数が格納されている。ただし、このような価格テーブル241や在庫テーブル242を、必要に応じて販社側サーバ30の記憶手段34に記憶させてもよい。この他、コンピュータプログラムである前記各手段21、22、23、25もこの記憶手段24に記憶されている。

【0034】このような記憶手段24内の各テーブルは、情報やデータの変更がある度に更新されており、常に最新の内容が格納されている。例えば、部品の品番が変更になった場合など、部品テーブル内の品番が最新の番号に変更されるとともに、旧番となった品番からはインデックス情報が外され、代わって最新の品番に付与される。また、部品の形状が変更になった場合には、該当する部品の図面データが更新される。

【0035】[クライアント端末]クライアント端末40は、必要な部品の情報やデータをネットワークを介して取得するとともに、この情報およびデータに基づいて部品明細書を作成する機能を有しており、パーソナルコンピュータ等からなる。具体的には、クライアント端末40は、取得手段41と、制御手段42と、出力手段43と、記憶媒体としてのハードディスク等からなる記憶手段44と、メールソフトである部品明細書受送信手段45とを備えている。なお、図示しないメーカー側および販売会社側のネットワーク端末も略同様な構成である。

【0036】本実施形態での特徴的な構成として、取得手段41は、情報取得手段411、図面情報取得手段412を備えている。制御手段42は、情報書込手段421、部品リスト作成手段422、二重取得防止手段423、部品明細書作成手段424を備えている。出力手段43は、部品リスト出力手段431、部品明細書出力手

段432を備えている。記憶手段44には、図12に示す内容の情報テーブル441が記憶されることになる。また、コンピュータプログラムである前記各手段41、42、43、45もこの記憶手段24に記憶されている。各手段の機能および情報テーブル441については後述する。

【0037】[ユーザーによる部品明細書の作成および送信]図13には、本システム1を用いた部品明細書作成の全体の流れが複数のブロックに分かれて示されている。図14、図15には、部品明細書作成の主要行程のフローチャートが示されている。図16ないし図24には、クライアント端末40の表示装置であるディスプレイ40Aに表示された内容が示されている。以下には、これらの図をも参照し、部品明細書の作成手順を説明するとともに、この手順に沿って販社側サーバ30の各手段311～314、321～324、331～334、ホストコンピュータ20の回答情報反映手段221、およびクライアント端末40の各手段411、412、421～424、431、432の機能についても説明する。

【0038】先ず、図13に示すブロック(図中および以下の説明では、「ブロック」を「BL」と表す)1において、本システム1を立ち上げると、販社側サーバ30のモデル名称出力手段331は、記憶手段34内のモデルテーブル341から建設機器のモデル名称を呼び出し、図16に示すように、クライアント端末40のディスプレイ40Aに表示する。

【0039】これに応じてユーザーは、入手したい部品がいずれのモデルに使用されているかを入力装置であるマウス40Bを使用して選択する。図16では、「油圧ショベル中型」を選択した状態が示されている。販社側サーバ30側では、「油圧ショベル中型」の情報が担持された信号をモデル名称取得手段311で取得する。そして、制御手段32の機種検索手段321は、取得したモデル名称に対応する機種名称を機種テーブル342から検索して呼び出す。さらに、機種名称出力手段332は、呼び出した機種名称をクライアント端末40に出力し、図17に示すように、クライアント端末40のディスプレイ40Aに階層的に表示する。

【0040】ユーザーは、部品がいずれの機種に使用されるかを選択する。図17では、機種として「PC300-6 S/N 30001-UP」を選択した状態が示されている。販社側サーバ30側では、「PC300-6 S/N 30001-UP」の情報が担持された信号を機種名称取得手段312で取得する。そして、装置検索手段322は、取得した機種名称に対応する装置名称を装置テーブル343から検索して呼び出す。装置名称出力手段333は、呼び出した装置名称をクライアント端末40に出力し、図18に示すように、ディスプレイ40Aに表示する。

【0041】必要とする部品が足回り装置を構成するもの

であれば、ユーザーは、**上**において「足回り」を選択する。販社側サーバ30側では、この情報が担持された信号を装置名称取得手段313で取得する。情報検索手段323は、該当する装置が描かれた図面の名称のみを図テーブル344から検索して呼び出す。情報出力手段334は、呼び出した図面名称をクライアント端末40に出力し、図19に示すように、ディスプレイ40Aに表示する。

【0042】ユーザーは、必要な部品が描かれている「トラックローラ(#52374)」の図面名称を選択する。販社側サーバ30の図面名称取得手段314は、図面名称である「トラックローラ(#52374)」が担持された信号を取得し、情報検索手段323は、図テーブル344から対応する図面データを検索して呼び出す。この後、情報出力手段334は、当該図面データをクライアント端末40に出力し、図20中の左側に示すように、図面データに基づく図面50を表示する。

【0043】さらに、販社側サーバ30側では、図面名称取得手段314で図面名称「トラックローラ(#52374)」を取得すると、情報検索手段323は、この図面名称に対応したインデックス情報、品番、名称、個数…の部品情報を部品テーブル345から検索して呼び出す。情報出力手段334は、呼び出した各情報をクライアント端末40に出力し、図20中の右中段に示すように、前述した図面50と同時に表51として表示する。この際、図面50中の各部品に付与された符号は、表51中の各品番に付与されたインデックス情報と一致している。

【0044】ここまでの一連の行程は、クライアント端末40の主にブラウザの機能によって販社側サーバ30との間で行われる。続く以下の行程は、クライアント端末40にインストールされた主に部品明細書作成ソフト（各手段422～424、431、432）により、このクライアント端末40単独で行われる。

【0045】先ず、図14のステップ（図中および以下の説明においては、「ステップ」を「ST」と表す）1にも示すように、クライアント端末40側では、販社側サーバ30から出力された前記図面データと、インデックス情報、品番、名称、個数…の部品情報を、クライアント端末40の取得手段41を構成する情報取得手段411で取得する。制御手段42の情報書き込み手段421は、図12に示すように、これらの情報およびデータを情報テーブル441として記憶手段44に記憶する。この際、図面データを部品毎のピットマップファイルとして記憶する。

【0046】この後、制御手段42の部品リスト作成手段422は、予め記憶手段44に記憶されてあるリストのテンプレートを、部品リスト出力手段431を介してディスプレイ40Aに出力し、図20中の右下段に示すように、このリストを部品リスト52として、前述した図面50、表51と同時に表示する。以上までが、図1

3のBL1の行程である。

【0047】図13のBL2において、ユーザーは表示された図面50上から、必要とされる部品を見出し、この部品に付与された符号をマウス40Bで選択する。ただし、部品を示す線部分を選択してもよい。図20では、符号「2」の部品を選択した状態が示されている。この際、選択された部品の符号を「○」で囲んだり（図20）、符号、引出線、部品の表示色を変化させたり、明るさの濃淡を変化させて表示し、選択した部品を分かり易くして重複した部品選択を防止させることができるもの。

【0048】クライアント端末40の図面情報取得手段412は、選択された符号「2」を含む部品の図面データを取得する。BL3において、部品リスト作成手段422は、取得した図面データに対応した部品の品番、名称、個数等を情報テーブル441から検索して呼び出す。部品リスト出力手段431は、呼び出した部品情報をクライアント端末40に出力し、部品リスト52内に組み入れる。この際、本実施形態での部品リスト出力手段431は、部品リスト52内に適用号機や機種名称等を表示させる機能や、「単価」、「金額」等のセル部分を設ける機能をも有している。…（図14でのST2完了）

【0049】BL6、BL7において、クライアント端末40の二重取得防止手段423は、ユーザーがアセンブリ部品とこれを構成する小部品との両方を選択していないかを確認する。ユーザーがアセンブリ部品および小部品の両方を選択し、部品リスト52内に取り込んでしまうと、小部品が重複して選択されるという問題が生じる。そこで、このような選択がなされている場合、二重取得防止手段423は、選択された小部品を部品リスト52から消去してアセンブリ部品のみを残し、小部品の二重取得を防止する。

【0050】例えば、図面50内から符号「2」を選択し、部品リスト52内に品番「211-30-72410」等の部品情報を表示させた後、この部品を含んで構成されるアセンブリ部品の符号「A」を図面50上で選択すると、部品リスト52内からは小部品である品番「211-30-72410」等の部品情報を消去され、符号「A」に係るアセンブリ部品の部品情報を表示される。

【0051】BL8では、部品明細書の作成を行う。クライアント端末40での画面が図20に示す状態にある時、ユーザーは表51の上方に表示されたメモ内の「明細書・販売会社への転送」を選択する。すると、部品明細書作成手段424は、記憶手段44から部品明細書のテンプレートを呼び出し、部品明細書出力手段432は、このテンプレートを図21に示す部品明細書60として表示する。この段階では、部品明細書60の各セル内はブランクとされている。ユーザーは次に、画面上の

メニューから「データの込み(R)」を選択する。これを受け部品明細書作成手段424は、先ほどの部品リスト52内に表示した部品情報を呼び出し、部品明細書出力手段432は、この部品情報を部品明細書60内に表示する。そして、ユーザーは部品明細書60の作成日や作成者等の必要事項を所定のセルに入力し、部品明細書60を完成させる。…(ST3の完了)
さらに、部品明細書60の作成がユーザー側で行われていることから、引き続きユーザーとして次行程に進む。…(ST4の完了)

【0052】BL9、BL10では、BL8で作成した部品明細書60を必要に応じて印刷し、ドキュメントとして残したり、また、部品明細書60をハードディスク等に保存する。部品明細書60の印刷は、図21に表示した画面のメニューから「ファイル」を選択し、表示されたプルダウンメニューから印刷のメニューを選択すればよい。図22には、ユーザー側で印刷する部品明細書60のプレビュー画面が示されている。…(ST5、ST6の完了)

【0053】一方、BL11～BL13において、ユーザーが販売会社に対して見積を依頼したり、部品を注文(オーダ)する場合には、メールソフトからなる部品明細書受送信手段45を起動させる。部品明細書受送信手段45は、部品明細書60を販社側サーバ30内に設定された販売会社のアドレスに送信し、また、送信ログを端末40内に保存する。…(ST8の完了)

【0054】〔販売会社およびメーカー側での部品明細書取扱上の流れ〕以下には、引き続き図13～図15を参照し、販売会社側およびメーカー側での部品明細書の取扱について説明する。図13のBL14において、販売会社側では、販社内インターネット3に接続された端末を操作して販売会社側サーバ30から部品明細書60を受信し、BL15において、図23に示すように、部品明細書60をディスプレイ上に表示する。部品明細書60をユーザー側からの見積依頼用として受信した場合、この段階では、部品明細書60内に部品の単価、金額、在庫の有無による納期情報等は入力されていない。次に、販売会社では、図23の画面上のメニューから「オンライン画面書込(W)」を選択する。これを受け販売会社側の端末は、部品明細書60をプリッジソフトを介してメーカー側のホストコンピュータ20に転送する。…(ST9の完了)

【0055】BL16、BL17において、メーカー側のホストコンピュータ20では先ず、部品明細書60をプリッジソフトを介して受け取る。そして、制御手段22の回答情報反映手段221は、部品明細書60内の部品情報に対応した部品の価格および在庫数に係る情報を記憶手段24内の価格テーブル241および在庫テーブル242から検索して呼び出し、部品明細書60に反映させる。…(ST10の完了)

この後、ホストコンピュータ20は、略全ての情報が入力された部品明細書60をプリッジソフトを介して販社側サーバ30に返送する。…(図15でのST11の完了)

【0056】再びBL15において、販売会社では、部品明細書60を受け取って図23のように表示した後

(この段階では、部品の単価、金額、在庫の有無による納期情報が取り込まれている)、作成日や作成者等の必要事項を入力する。…(ST12の完了)

次いで、BL18、BL19において、部品明細書60の印刷の必要性を判断し、必要であれば印刷を行い、また、部品明細書60を保存する。図24には、販売会社側で印刷する部品明細書60のプレビュー画面が示されている。このような印刷および保存は、ユーザー側のクライアント端末40での操作と同様にして行うことが可能である。…(ST12～ST15の完了)この後かまたは前記印刷が不要と判断した後、BL20、BL21において、販売会社は、部品明細書60をユーザー側への見積書用として用い、送受信手段(メール)でユーザー側に送信する。このような場合には、ユーザーの発信アドレスを指定して送信すればよい。これに対し、部品明細書60を別途郵送等で送る場合には、印刷された部品明細書60を送付すればよく、部品明細書60のデータは保存される。…(ST16～ST20の完了)

【0057】次に、ユーザー側は、この見積書の部品明細書60に記載された金額や納期情報を検討した後、特に問題がなければ、当該部品明細書60を部品の注文書用として販売会社に再送信する。この送信手順は、BL11～BL13で説明した同様な操作で行われる。そして、BL14で受信する販売会社での部品明細書60には、既に金額等の情報が記載されているため、販売会社は、BL22において、部品明細書60をホストコンピュータ20に転送し、メーカーに対して部品を発注する。この際の部品明細書60の転送手順も、ユーザー側から販売会社への転送手順と同じである(BL11～BL13の説明を参照)。…(図14でのST21の完了)

【0058】なお、例えば、部品の在庫を販売会社で所持し、価格等の設定も販売会社で行う場合には、ユーザー側の見積依頼に対して在庫数や価格の情報をホストコンピュータ20にアクセスして取得する必要がないので、販売会社自身の前記価格や在庫情報を用いてユーザー側に見積回答を行えばよく、また、ユーザー側から部品の注文書を受けた後には、メーカー側に部品を発注する必要がないので、自身での在庫中の部品をユーザー側に発送して納品すればよい(BL22の「発送」の意)。

【0059】ところで、部品の信頼性等を向上させるために、その形状や材質などを若干変更する場合がある。そして、メーカー側は、この変更に伴う図データおよび

品番の更新をホストコンピュータ20内の図テーブルおよび部品テーブルについて行う。このような更新は、販社側サーバ30の更新手段324で監視されている。更新手段324は、ホストコンピュータ20での更新がされると、更新された情報やデータを自動的にダウンロードし、販社側サーバ30の図テーブル344および部品テーブル345の内容を更新する。

【0060】〔実施形態の効果〕以上の本実施形態によれば、以下の効果がある。

(1)部品明細書作成システム1では、部品の見積依頼や注文に用いる部品明細書60を作成するにあたり、ユーザーは、必要な部品が描かれている図面50をクライアント端末40のディスプレイ40A上に表示させ、この図面50の中から当該部品をマウス40B等で選択すればよく、選択された部品の品番等から部品明細書60を自動的に作成できる。従って、部品の品番や名称等をパーティリストから探し出したり、パーティリストから転記するといった煩わしい作業を省くことができ、業務を効率化できる。

【0061】(2)ユーザー側のクライアント端末40は、二重取得防止手段423を備えているので、アセンブリ部品とこれを構成する小部品との両方を選択した場合でも、小部品側の部品情報を消去してアセンブリ部品の部品情報を部品リスト52に残すことができ、小部品を重複して取得するのを確実に防止できる。

【0062】(3)メーカー側のホストコンピュータ20には、部品の価格情報が格納された価格テーブル241と在庫情報が格納された在庫テーブル242とが記憶されているとともに、このホストコンピュータ20は、これらの情報を部品明細書60に反映する回答情報反映手段221を備えているから、販売会社側では、ユーザーから受信した見積依頼用の部品明細書60をホストコンピュータ20側に転送するだけで、価格や在庫数に基づく納期等を部品明細書60に正確かつ迅速に反映でき、見積依頼に対して回答するための見積書作成業務を効率よく行える。

【0063】(4)ユーザー側のクライアント端末40は、通信距離の近い販社側サーバ30から部品明細書60作成用の情報やデータを取得するため、メーカー側のホストコンピュータ20から取得する場合に比して応答性を良好にでき、図面50や表51の表示速度を速めることができるなど、部品明細書60の作成を短時間で行える。

【0064】(5)また、ホストコンピュータ20と販社側サーバ30との両方に同機能を持たせたり、同様な記憶内容のデータベースを構築しておくことにより、ユーザーが頻繁にアクセスする販社側サーバ30がダウンした場合や、情報やデータが何らかの理由で失われる等した場合でも、ホストコンピュータ20側でバックアップでき、業務遂行に何ら支障を来す心配がない。加えて販

売会社側では、のようなデータベースのバックアップを取る必要がないから、販社側サーバ30としては、さほど高機能・大容量のマシンを用意する必用がなく、経済的である。

【0065】(6)部品明細書60を作成するユーザーは、建設機械のモデルを選択することから始め、順次階層的に詳細な名称等を選択すればよいので、販売会社やメーカー側の担当者に比べて専門知識に乏しい場合でも、必要な部品が描かれた図面名称の選択まで確実にたどり着くことができ、本システム1の使い勝手を良好にできる。

【0066】(7)ユーザーが図面50から必要な部品を選択している間、部品リスト52が図面50と同時に表示されるので、選択した部品の部品情報が正しく部品リスト52に取り込まれているかを、部品を選択しながら容易に確認でき、この点からも本システム1の使い勝手を向上させることができる。

【0067】(8)ホストコンピュータ20、販社側サーバ30、およびクライアント端末40間相互の部品明細書60のやり取りは、メールソフトからなる部品明細書受送信手段25、35、45を利用して行われるため、部品明細書60を印刷して郵送したり、持参する手間を省くことができ、部品購買や販売に係る各サイトの作業の効率化をより促進できる。

【0068】なお、本発明は、前記実施形態に限定されるものではなく、本発明の目的を達成できる他の構成等を含み、以下に示すような変形等も本発明に含まれる。例えば、前記実施形態の部品明細書作成システム1は、販社側サーバ30内に記憶された各種テーブル341～346の情報やデータをデータベースとして、専ら部品明細書を作成し、部品の見積依頼、見積、注文等に役立てるシステムであったが、このような機能の他、図面、品番、装置、機種等のうちのいずれかの情報から、他のいずれかの情報を検索できる検索機能を付加してもよい。また、部品リスト52上に表示された個数や価格等をユーザー側や販売会社側で変更できる機能を付加してもよい。さらに、任意の表示画面でメモ書きを残せる機能を付加してもよい。このようなメモ書き機能は、書き込んだユーザー側または販売会社側のみが見ることができるように設定されたものや、双方で見ることができるるものであってもよい。

【0069】本発明に係る部品明細書作成システムは、部品の購買や販売業務に用いる他、新しい建設機械の見積依頼や注文等に利用可能である。図13中の二点鎖線内には、このような場合の明細書作成までの流れが示されている。すなわち、販社側サーバ30には、パケット等のアタッチメントをモデル毎に格納したアタッチメントテーブルや、各カタログの情報が格納されたカタログテーブル、モデル毎の性能やサイズ的なスペックが格納されたスペックテーブルを記憶させておく。ユーザー

は、クライアント端末に、該当の情報を呼び出して表示させ、必要な情報を購入予定の建設機械の仕様に基づいて画面上で選択し、選択した情報を部品リストとして表示させ、最終的に部品明細書に落とし込む。このような場合でも、建設機械の品番や、アタッチメントの品番を漏れなく正確に販売会社に伝えることができる。

【0070】ホストコンピュータ20の記憶手段24に記憶された情報やデータは、全てが販社側サーバ30の記憶手段34に記憶されている必要はない、例えば、販売会社がブルトーザのみを扱う場合など、他のホイルローダや油圧ショベル等の情報を記憶しておく必要はない。これによれば、販社側サーバ30のハードディスク等をより記憶容量の小さいものにでき、経済的であるうえ、記憶された情報が少ない分だけ、システムの応答性を良好にできる。また、ホストコンピュータ20側からの情報等のダウンロードにかかる時間も短くでき、手間がかからない。

【0071】前記実施形態では、初めの部品明細書60をユーザー側で作成していたが、このような部品明細書を販売会社やメーカー側のネットワーク端末で作成してもよい。例えば、ネットワークに接続された端末をユーザーが有していない場合には、販売会社側が部品明細書を作成し、価格や在庫数の取り込み、あるいは部品の発注などの際に、この部品明細をメーカー側のホストコンピュータ20との間で送受信すればよい。そして、ユーザー側に対しては、部品明細書を印刷等した後、ファックス、郵送、持参などすればよい。

【0072】前記実施形態では、建設機械を構成する部品の部品明細書60について説明したが、本発明に係る部品明細書の部品としては、建設機械の部品の他、他の機械や機器類、自動車、住宅、レジャー用品、生活必需品等のあらゆる分野の商品を構成する部品であってよく、また、商品自身であってもよい。図25ないし図27には、建設機械の部品以外の部品明細書作成に関する例が示されている。図25において、クライアント端末のディスプレイ40Aには、「コンクリート関連機材」、「土留配管関連」、「鉄筋・鉄板加工機」、「農林園芸関連」…などの商品の商品名称が表示されている。このような商品名称は、ネットワークサーバの記憶手段に商品名称テーブルとして記憶されている。

【0073】このような表示状態から、例えば、「ハウス」を選択すると、図26に示すように、「スチール製物置（標準型）」、「スチール製物置（薄型シリーズ）」…等の画面名称が表示される。このような画面名称は、サーバ側やユーザー側端末の記憶手段に図テーブルや情報テーブルとして記憶されており、この図テーブルには各画面名称に対応した画面データが格納されている。従って、例えば、ユーザーが画面名称として「ユニットハウス」を選択すると、ユーザー側のディスプレイ40Aには、図27に示すように、ユニットハウスが描

かれた図面50が表示されるとともに、図面50内の各ユニットハウスに関するインデックス情報、形式、品番、梁間、天井高…等の部品情報用の表51が表示される。

【0074】そして、この図面50の中から、ユーザーが希望するユニットハウスの例えば符号「KU7060」をマウス等で選択すれば、この符号を含む画面データに対応したユニットハウスの部品情報が部品リストとしての商品リスト53内にリストアップされる。次いで、クライアント端末内の部品明細書作成手段（図11参照）は、この商品リスト52内の情報に基づき、部品明細書としての商品明細書を作成する。以上のように、建設機械の構成部品以外についても、明細書を迅速且つ正確に作成できる。

【0075】本発明の部品明細書作成システムを実現するために構築されるネットワークは、前記実施形態に示すものに限定されず、任意である。例えば、最小のネットワークとしては、メーカー側あるいは販売会社側のネットワークサーバとユーザー側のクライアント端末がオンラインで接続されていればよい。

【0076】また、特にユーザー側のネットワーク端末（クライアント端末）としては、パーソナルコンピュータの他、例えば、ブラウザ機能を有する携帯電話や携帯情報端末（PDA）等であってもよい。このような端末によれば、有線の通信回線や商用電源が整備されていない建設現場等の場所からでも、ネットワークを介して本システムを効率的に利用できる。

【0077】さらに、本発明のシステムを、ネットワークを介して接続されたネットワークサーバおよびネットワーク端末で構成する他、スタンドアロンタイプのコンピュータで実現しても前記請求項1の発明に含まれる。このような場合でも、データベース内の画面データや部品情報をを利用して部品明細書を迅速かつ確実に作成でき、本発明の目的を達成できる。

【0078】本発明の記憶媒体としては、ネットワークサーバやネットワーク端末の記憶手段を構成するハードディスクの他、このようなハードディスクにプログラムをインストールするために用いられる光ディスク等であってもよく、本システムを実行するためのコンピュータプログラムが記憶された任意の記憶媒体を含む。

【0079】

【発明の効果】以上に述べたように、本発明によれば、ユーザーは表示画面上から必要な画面名称および部品を選択するだけでよく、品番等の部品情報を扱う煩わしさを省くことができ、部品明細書を迅速かつ正確に作成できるという効果がある。

【画面の簡単な説明】

【図1】本発明の一実施形態に係る部品明細書作成システムの概略全体を示す模式図である。

【図2】販社側サーバを示すブロック図である。

【図 3】販社側サーバに記憶されたモデルテーブルを示す模式図である。

【図 4】販社側サーバに記憶された機種テーブルを示す模式図である。

【図 5】販社側サーバに記憶された装置テーブルを示す模式図である。

【図 6】販社側サーバに記憶された図テーブルを示す模式図である。

【図 7】販社側サーバに記憶された部品テーブルを示す模式図である。

【図 8】販社側サーバに記憶されたA'ssyテーブルを示す模式図である。

【図 9】ホストコンピュータを示すブロック図である。

【図 10】ホストコンピュータに記憶された価格テーブルを示す模式図である。

【図 11】クライアント端末を示すブロック図である。

【図 12】クライアント端末に記憶された情報テーブルを示す模式図である。

【図 13】部品明細書の作成および作成後の流れをブロックで示す図である。

【図 14】部品明細書の主要な行程の流れを示すフローチャートである。

【図 15】図 14 の続きを示すフローチャートである。

【図 16】建設機械のモデルが表示された画面を示す図である。

【図 17】機種名称が表示された画面を示す図である。

【図 18】装置名称が表示された画面を示す図である。

【図 19】図面名称が表示された画面を示す図である。

【図 20】部品選択用の画面を示す図である。

【図 21】ユーザー側での部品明細書が表示された画面を示す図である。

【図 22】ユーザー側で印刷する部品明細書のプレビュー画面を示す図である。

【図 23】販売会社側での部品明細書が表示された画面を示す図である。

【図 24】販売会社側で印刷する部品明細書のプレビュー

一画面を示す図である。

【図 25】本発明の変形例に係る商品名称が表示された画面を示す図である。

【図 26】前記変形例の図面名称が表示された画面を示す図である。

【図 27】前記変形例での商品選択用の画面を示す図である。

【符号の説明】

- 1 部品明細書作成システム
- 2 メーカー内インターネット
- 3 販社内インターネット
- 4 インターネット
- 20 ネットワークサーバであるホストコンピュータ
- 24 サーバ（ホストコンピュータ）側記憶手段
- 30 ネットワークサーバである販社側サーバ
- 34 サーバ側記憶手段
- 40 ネットワーク端末であるクライアント端末
- 44 端末側記憶手段
- 50 図面
- 52 部品リスト
- 53 部品リストである商品リスト
- 60 部品明細書
- 221 回答情報反映手段
- 241 価格テーブル
- 242 在庫テーブル
- 314 図面名称取得手段
- 321 情報検索手段
- 324 更新手段
- 334 情報出力手段
- 344 図テーブル
- 345 部品テーブル
- 412 図面情報取得手段
- 422 部品リスト作成手段
- 423 二重取得防止手段
- 424 部品明細書作成手段
- 431 部品リスト出力手段

【図 3】

モデル名称
クレー
ブルドーザ小型
ブルドーザ大型
ブルドーザ中型
ホイールローダ小型
ホイールローダ大型
ホイールローダ中型
油圧ショベル小型
油圧ショベル大型
油圧ショベル中型

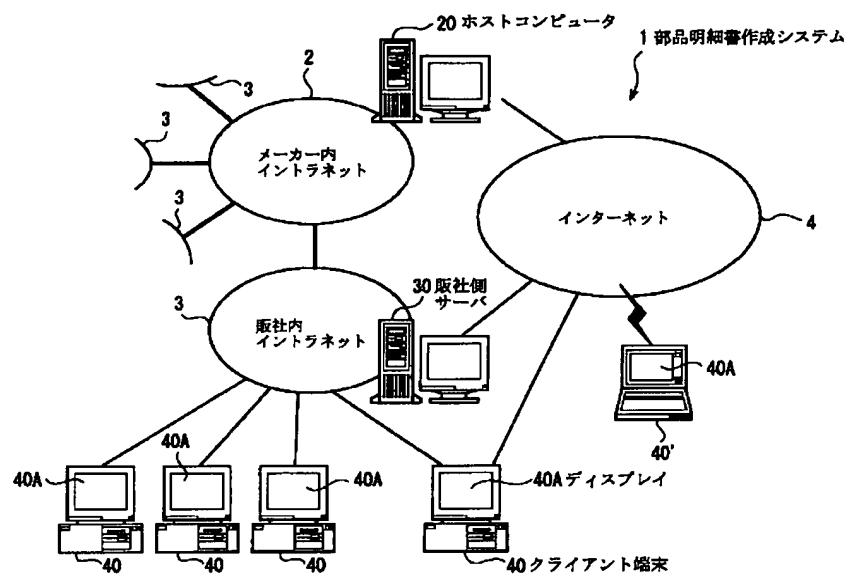
341 モデルテーブル

【図 10】

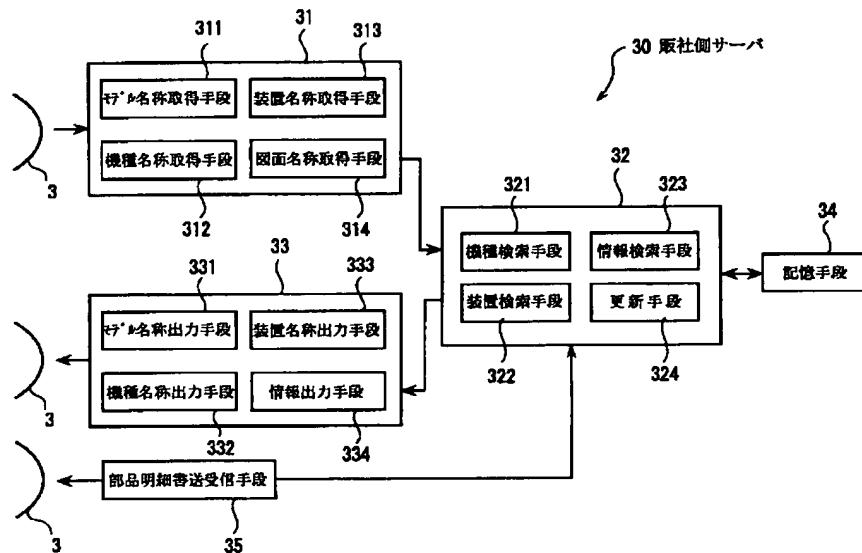
価格		
品番	品名	単価
201-32-71110	ショートラックトヨタ	4,220
112-32-11221	ショートラック(日立)	0
101-32-11271	ショートラック	160
201-32-71140	ブルドーザ	1,190
201-32-51130	ショートラック	1,570
:	:	:

241 価格テーブル

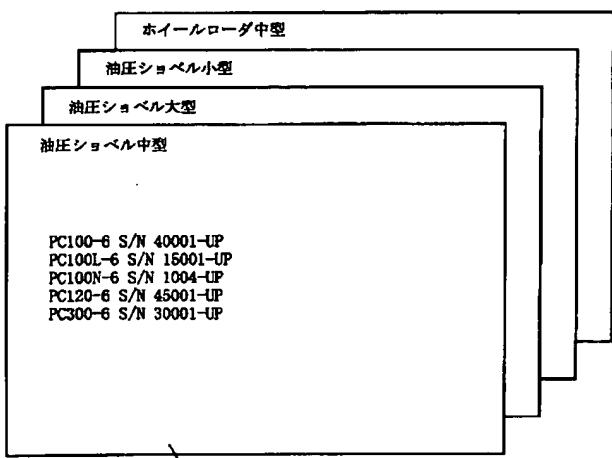
【図1】



【図2】

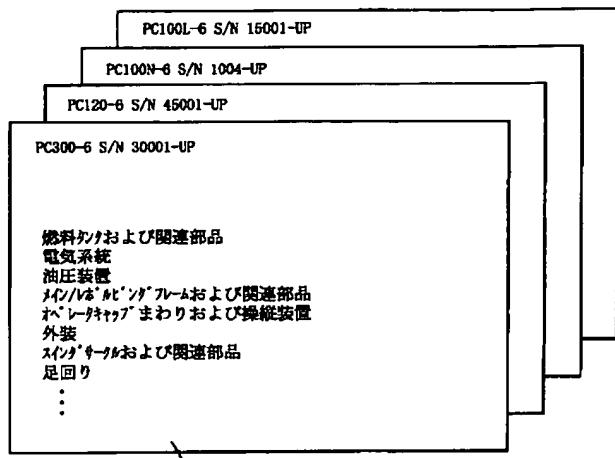


【図 4】



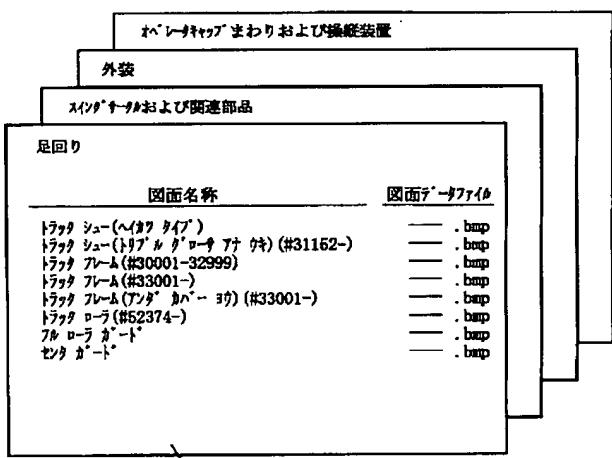
342 機種テーブル

【図 5】



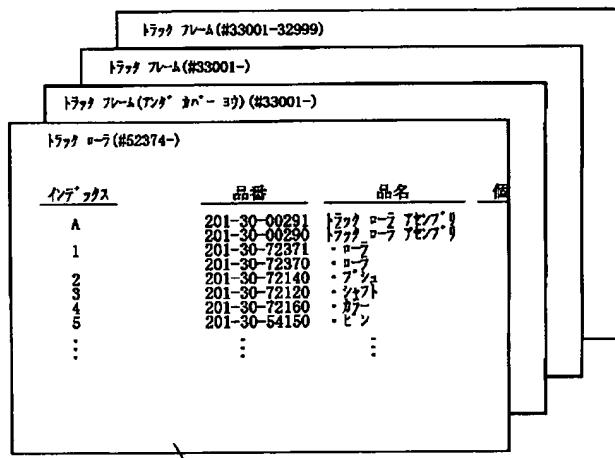
343 装置テーブル

【図 6】



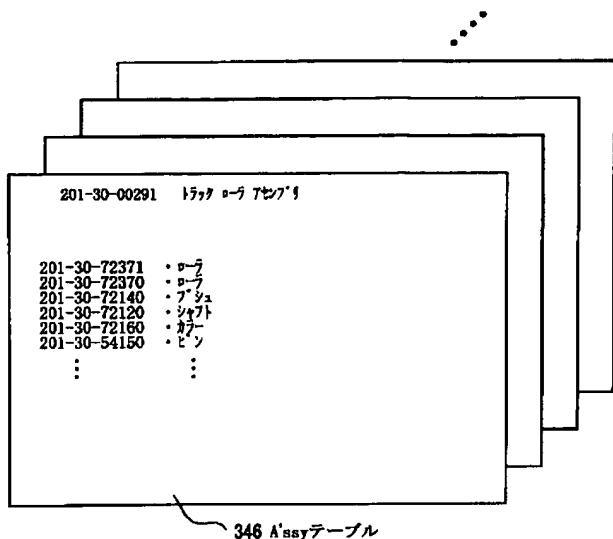
344 図テーブル

【図 7】



345 部品テーブル

【四 8】

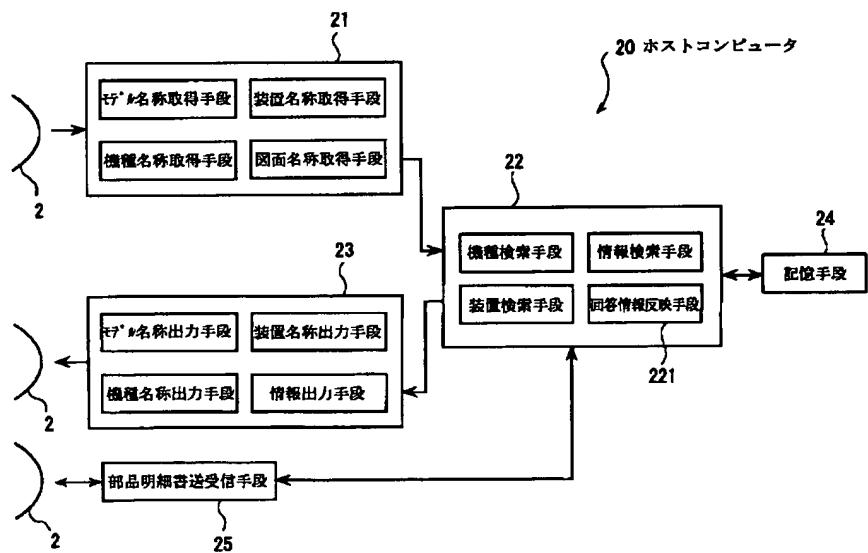


【図12】

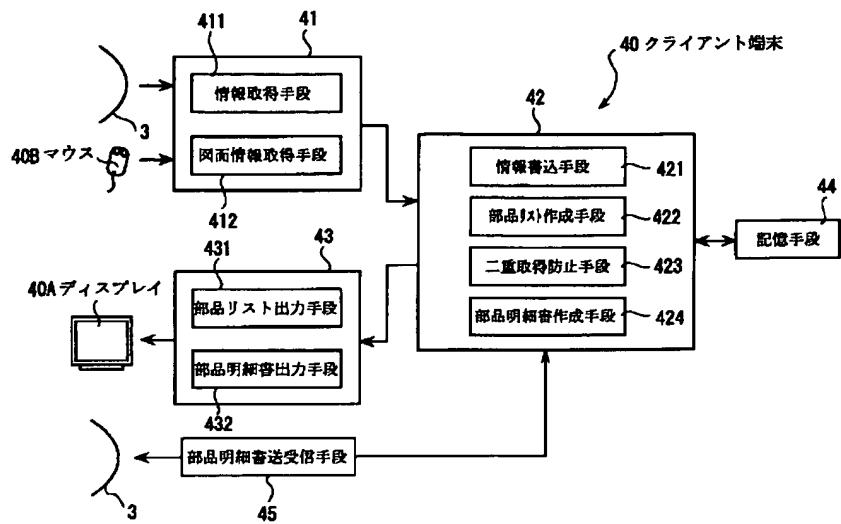
441 情報テーブル

^ 346 Assyテーブル

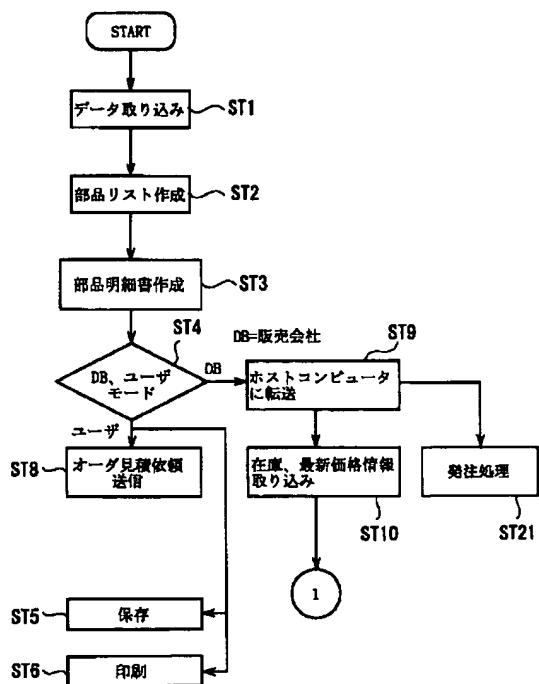
【四九】



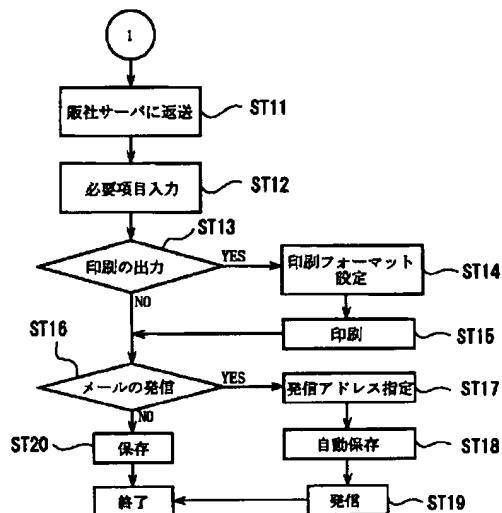
【図11】



【図14】



【図15】



344

BL13
BL12
BL11
BL8
BL3
BL2
BL1

卷之三

選択 選択部表示 明細書 見積文 依頼注 文書登録 指定言語 保存

BL14
BL22
BL2

BL1 子部品の消去
BL9 印刷

受信
発送・発注

BL10
BL20
BL11

ପାତା ଲୋକଙ୍କ ମହିନେ ଏହାରେ ଆଜିର କାହାରେ

書面明細書発行見積書発行

BL5 21

印刷 B118

連報車体十79年1月

BL19 表示 保存

BL17
在庫登録

車体標準仕様

本トピックは、アラカルト選択

アーティスト

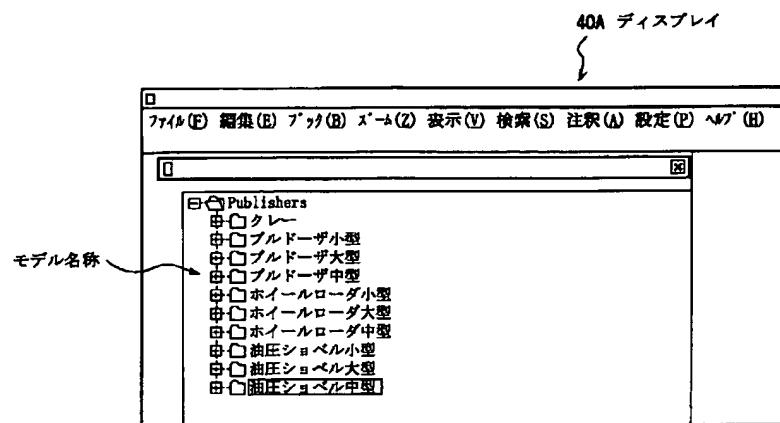
242
画由目刷

241 ~**価格テープ** 在庫テープ

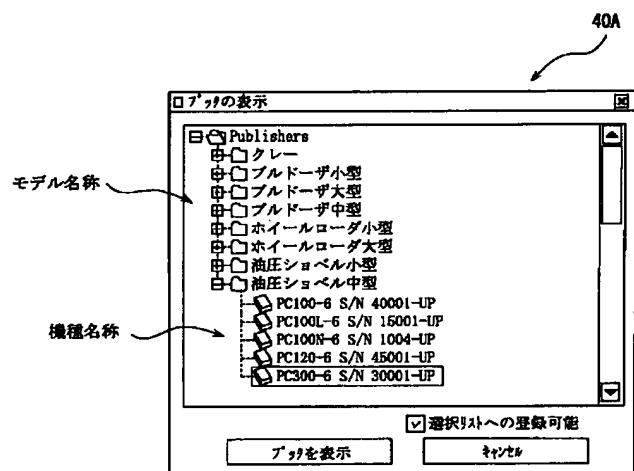
卷之三

【図13】

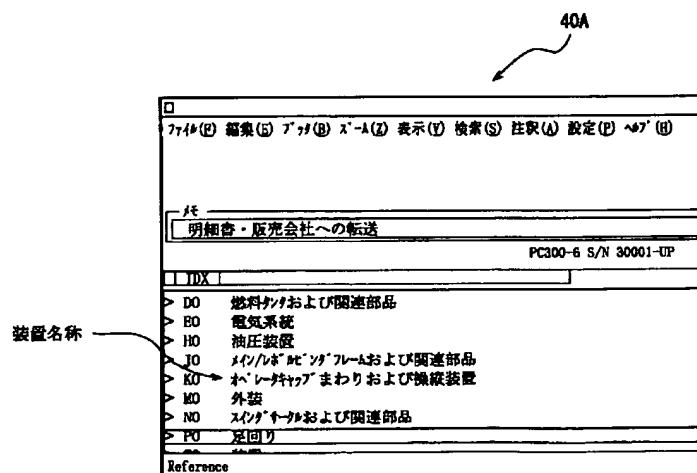
【図16】



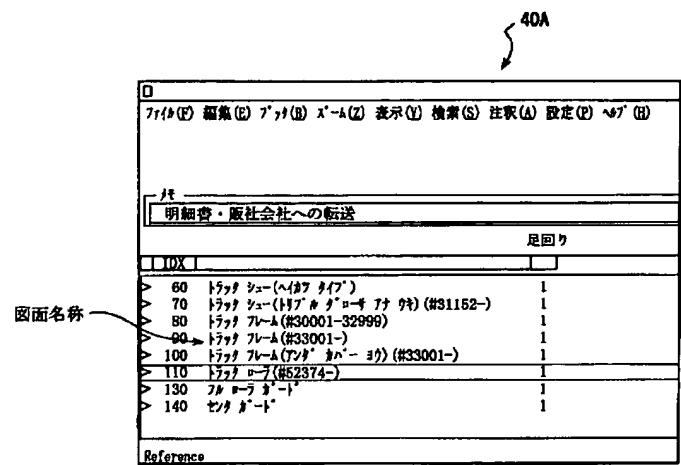
【図17】



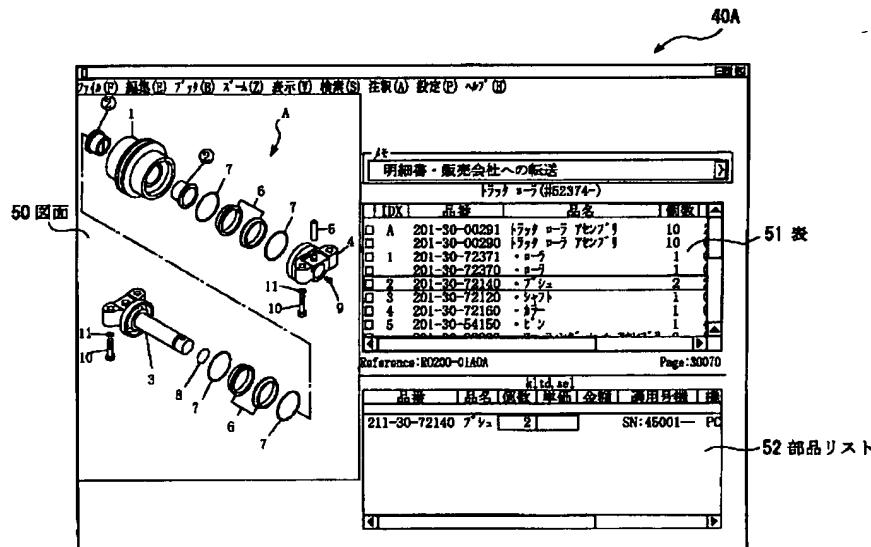
【図18】



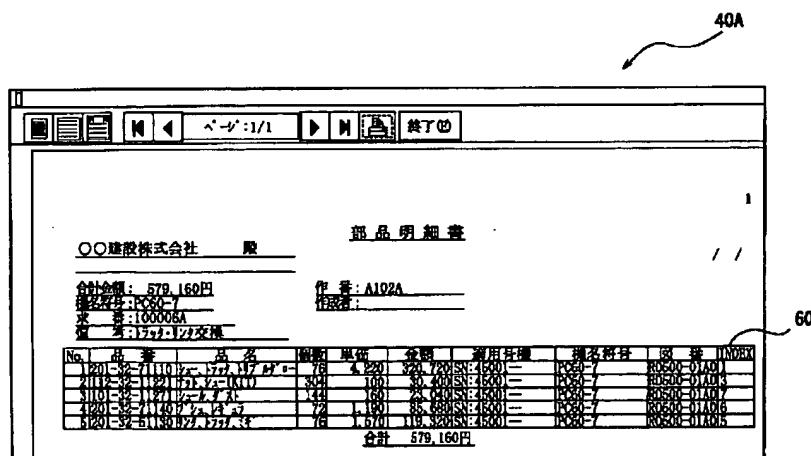
【図 19】



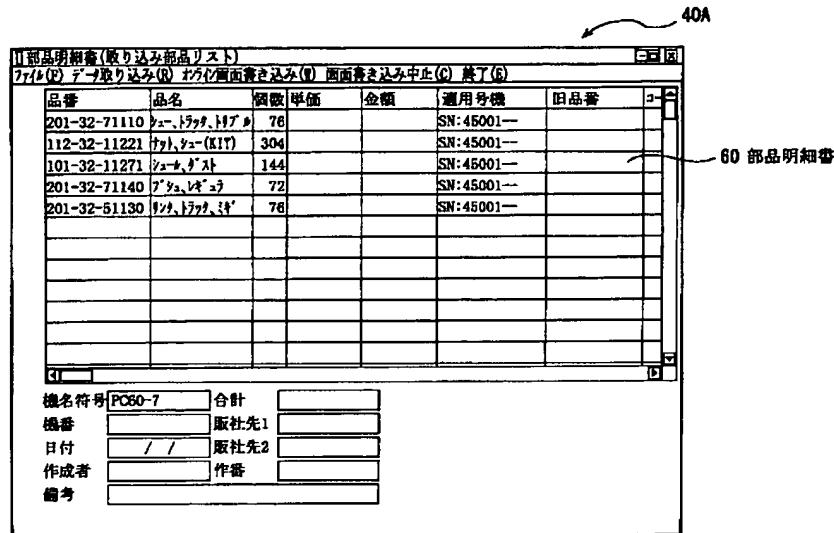
【図 20】



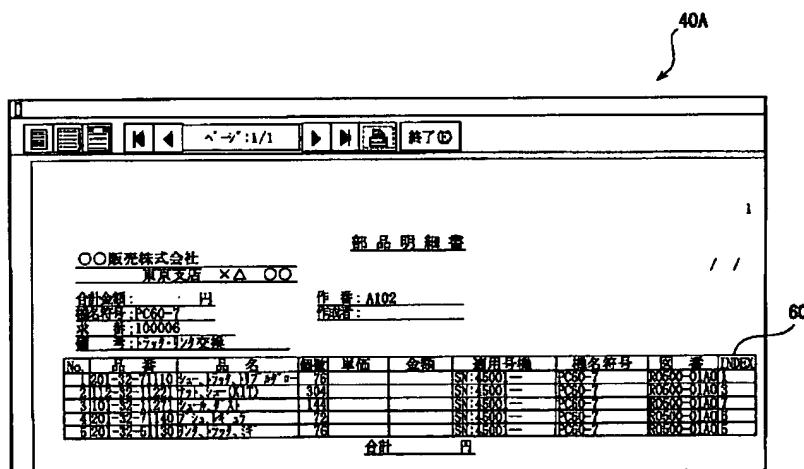
【図 24】



【図21】



【図22】

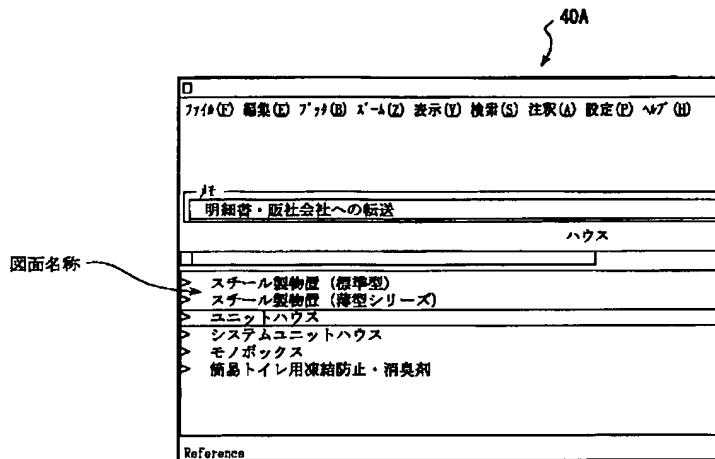


【図23】

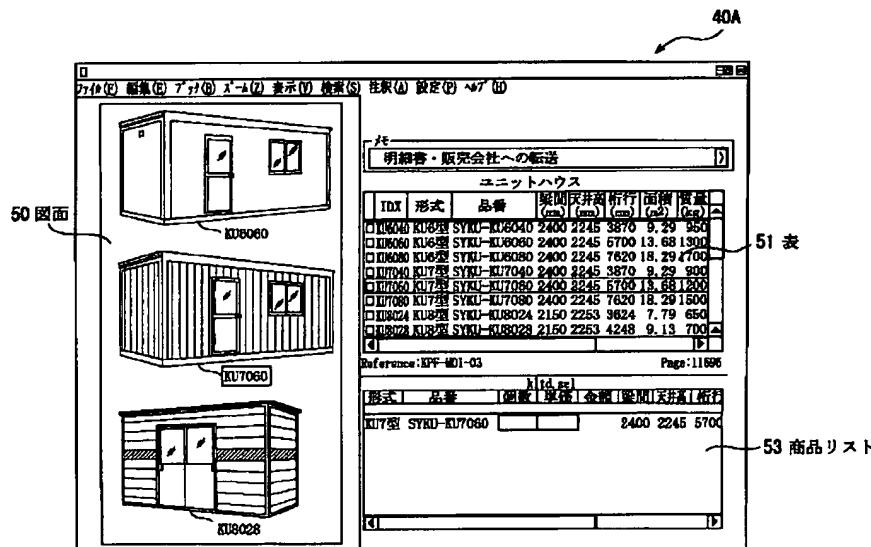
【図25】

The screenshot shows a Japanese software application window. At the top is a menu bar with items: ファイル (File), 編集 (Edit), ツール (Tools), 表示 (View), 検索 (Search), 注釈 (Annotations), 設定 (Settings), and ヘルプ (Help). Below the menu is a toolbar with icons for opening files, saving, and other functions. The main area contains a list of products under the heading '明細書・販売会社への転送' (Transfer to Sales Company). The list includes: コンクリート関連機材, 土留配管関連, 鉄筋・鉄板加工機, 農林園芸関連, 換気・空調, 排除機, ハーフス, and 電動・エア工具. A reference section at the bottom lists: Reference, Help, and Exit.

【図 26】



【図 27】



フロントページの続き

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製作所内

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5B049 AA01 BB05 CC11 DD01 DD05
EE00 EE05 EE07 FF03 GG04
GG07
5B075 ND20 PP02 PP03 PP13 PQ02
PQ46 UU22

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CLAIMS

[Claim(s)]

[Claim 1] A means to memorize the database built including the drawing data of the drawing in which components are shown, and the components information on said component, A means to call the drawing data of components required for creation of a components specification, and a means to display the drawing based on the drawing data concerned on a screen, A means to choose said component from the displayed drawings, and a means to call the components information corresponding to the drawing data of the selected components from said database, The components specification creation system characterized by having the means which list-izes called components information and said screen is made to display on said drawing and coincidence, and a means to draw up said components specification automatically based on the list of this component.

[Claim 2] It is the components specification creation system equipped with the Network Server and network terminal which were connected through the network. Said Network Server (A) A server side storage means by which the drawing name of the drawing in which components are shown, the drawing data of said drawing, and the components information on said component were memorized, (B) Drawing data corresponding to a drawing name acquisition means to acquire the drawing name of the arbitration chosen at said network terminal, and said drawing name which carried out (C) acquisition, An information retrieval means to retrieve the components information on the components drawn on the drawing of said drawing name from said server side storage means, (D) The searched drawing data and components information are outputted to said network terminal. It has an information output means to display the drawing based on the drawing data concerned on the display of said network terminal. And said network terminal (a) A terminal side storage means by which the drawing data outputted from said Network Server and said components information were memorized, (b) A drawing information acquisition means to acquire the drawing data about the components chosen on said drawing displayed on the indicating equipment, (c) A part list creation means to retrieve the components information corresponding to the acquired drawing data from said terminal side storage means, (d) The part list output means incorporated in the part list which outputs the retrieved components information to said display, and is displayed on said drawing and coincidence, (e) Components specification creation system characterized by having a components specification creation means to draw up a components specification based on the components information in said part list.

[Claim 3] It is the components specification creation system characterized by having a duplex acquisition prevention means to acquire only the components information on said assembly component when the components information on assembly components that said network terminal consists of one components information of two or more components and these components in a components specification creation system according to claim 2 is chosen.

[Claim 4] In a components specification creation system according to claim 2 or 3 for said server side storage means While the price table which consists of price information for every components, and the inventory table which consists of inventory information for every components are memorized, said Network Server The components specification creation system characterized by having the reply information reflection means which retrieves the price information and inventory information about components on said components

specification from said price table and an inventory table, and is made to reflect in the components specification concerned.

[Claim 5] Said Network Server is a components specification creation system which is prepared at least two sets and characterized by the thing from which a communication range with said network terminal differs in a components specification creation system according to claim 2 to 4, and for which a communication range of while is near and said network terminal accesses a Network Server.

[Claim 6] It is the components specification creation system characterized by having an updating means to update the drawing data and/or components information on own when the near Network Server of a communication range supervises the drawing data of the far Network Server of a communication range, and/or the existence of modification of components information in a components specification creation system according to claim 5 and there is modification.

[Claim 7] It is the components specification creation system characterized by said component being a component part of a construction equipment in a components specification creation system according to claim 1 to 6.

[Claim 8] From the database built including the drawing data of the drawing in which components are shown, and the components information on said component, the drawing data of components required for creation of a components specification with call appearance soot After choosing said component from the drawings which were made to display the drawing based on the drawing data concerned on a screen, and were displayed, The components specification creation approach characterized by calling the components information corresponding to the drawing data of the selected components from said database, list-izing called components information, making said screen display on said drawing and coincidence, and drawing up said components specification automatically based on the list of this component.

[Claim 9] The storage characterized by memorizing the computer program which performs the components specification creation approach according to claim 8.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the storage which memorized the computer program which performs the creation system of the components specification used for a request for quotation, order, etc. of the components which constitute a construction equipment, the components specification creation approach, and the components specification creation approach.

[0002]

[Background of the Invention] Conventionally, construction equipments, such as a foil loader and a bulldozer, are known. It is necessary to purchase components from a construction-equipment selling firm etc. in the case of exchange of the components accompanying failure and a periodical inspection of such a construction equipment. In purchasing components, a request for quotation is performed to a selling firm from the user side who owns a construction equipment first. After a selling firm side receives the request for quotation from a user and performs the check of the number of inventories by the side of self or a manufacturer, or a components unit price, it draws up an estimate and sends it to a user side. Then, according to an estimate, an order sheet is published from a user side in a dealer. Moreover, although components may be soon purchased from a manufacturer side depending on a situation, such even case, usually a user side requests an estimate to a manufacturer side.

[0003]

[Problem(s) to be Solved by the Invention] By the way, the case where the components specification of required components is attached as a request for quotation by the side of a user, or this components specification itself has constituted the gestalt of a request for quotation is common. Components information, such as a name of the components which are estimated objects, a lot number, and the number, is indicated by this components specification.

[0004] However, although a components specification is drawn up, it is necessary to investigate corresponding nomenclature, a lot number, etc. of components out of documents, such as a parts list which also attains to hundreds pages, and there is a problem that this activity takes great time and effort in it. Moreover, a construction equipment also has the problem that lot numbers differ, or the same components also have many digit counts of a lot number, and the selection mistake of a lot number and the copy mistake to a components specification tend to produce them a top with many similar lot numbers apparently, that many models with which specifications differ exist, and by consisting of many components extremely. And such a problem may be produced about the components of all fields, such as not only the components that constitute a construction equipment but other machines, an equipment and an automobile, a residence, leisure goods, and necessities.

[0005] The purpose of this invention is to offer the components specification creation system which can draw up a components specification quickly and correctly.

[0006]

[Means for Solving the Problem] The components specification creation system of claim 1 of this invention A means to memorize the database built including the drawing data of the drawing in which components are shown, and the components information on said component, A means to call the drawing data of components

required for creation of a components specification, and a means to display the drawing based on the drawing data concerned on a screen, A means to choose said component from the displayed drawings, and a means to call the components information corresponding to the drawing data of the selected components from said database, It is characterized by having the means which list-izes called components information and said screen is made to display on said drawing and coincidence, and a means to draw up said components specification automatically based on the list of this component. Here, image data is also contained in "drawing data." Therefore, the image by image data is also contained in a "drawing." It is the same as below also about the drawing data and the drawing of a publication.

[0007] In such the invention in this application, since what is necessary is just to choose components from on this drawing and to create a part list on a screen, after calling the drawing data memorized by the database and displaying the drawing of components on a display etc., it is not necessary to discover the lot number number of components from a document, or to post, and components specification creation comes to be performed quickly and correctly.

[0008] The components specification creation system of claim 2 is a system equipped with the Network Server and network terminal which were connected through the network. Said Network Server (A) A server side storage means by which the drawing name of the drawing in which components are shown, the drawing data of said drawing, and the components information on said component were memorized, (B) Drawing data corresponding to a drawing name acquisition means to acquire the drawing name of the arbitration chosen at said network terminal, and said drawing name which carried out (C) acquisition, An information retrieval means to retrieve the components information on the components drawn on the drawing of said drawing name from said server side storage means, (D) The searched drawing data and components information are outputted to said network terminal. It has an information output means to display the drawing based on the drawing data concerned on the display of said network terminal. And said network terminal (a) A terminal side storage means by which the drawing data outputted from said Network Server and said components information were memorized, (b) A drawing information acquisition means to acquire the drawing data about the selected components from on said drawing displayed on the indicating equipment, A part list creation means to retrieve the components information corresponding to the drawing data which carried out (c) acquisition from said terminal side storage means, (d) -- the part list output means which outputs the retrieved components information to said display, and is incorporated in said drawing, simultaneously the part list displayed, and (e) -- it is characterized by having a components specification creation means to draw up a components specification based on the components information in said part list.

[0009] The Network Server of such a configuration outputs the drawing data of the drawing which the user chose to the network terminal by the side of a user, and displays a drawing on screens, such as a network terminal, for example, a display etc. A user chooses required components with a header from the drawings on a screen, and chooses the corresponding components with a mouse etc. Then, a network terminal draws up a components specification based on this list while displaying on a scope the components information which retrieved and retrieved components information based on the drawing data of the selected components as a part list.

[0010] Therefore, also in the actuation by the side of the above users, since what is necessary is just to choose required components, looking at the drawing on a screen in order to display a part list available as a components specification, there is no object for ** which treats a troublesome lot number etc. too, and a selection mistake and copy mistake of a lot number etc. are prevented. For this reason, components specification creation is performed quickly and correctly, and working efficiency's [, such as estimated business,] improves in connection with this. Moreover, by transmitting such a components specification to the Network Server on a network, it can also be possible to receive a components specification at the terminal by the side of a dealer or a manufacturer, and the activity of the estimate creation to a request for quotation etc. can also be efficiently done now.

[0011] In the components specification creation system of claim 3, said network terminal is characterized by having a duplex acquisition prevention means to acquire only the components information on said assembly component, when one components information of two or more components and the components information on

the assembly components which consist of these components are chosen. Although two or more components which constitute assembly components are the so-called small components, small components will be chosen as a duplex when the components information on the assembly components in the high order of these is also chosen, in spite of having chosen the components information on these small components. Then, in this invention, when both the components information on small components and the components information on assembly components were chosen, it constituted so that only the selection by the side of assembly components might be received. Thereby, duplex acquisition of small components is prevented and creation and components arrangements of a positive components specification come to be performed.

[0012] While the price table which becomes said server side storage means from the price information for every components, and the inventory table which consist of inventory information for every components are memorized, in the components specification creation system of claim 4, said Network Server is characterized by to have the reply information reflection means which retrieves the price information and the inventory information about components on said components specification from said price table and an inventory table, and makes reflect in the components specification concerned. With such a configuration, inventory information and price information can perform now easily estimate creation for example, to an estimate request by making such information reflect in a components specification, in being easily acquired from the storage hand of a Network Server.

[0013] In the components specification creation system of claim 5, at least two sets are prepared and said Network Server is characterized by the thing whose communication ranges with said network terminal differ and for which a communication range of while is near and said network terminal accesses a Network Server. With such a configuration, since this system of each other is used between near network terminals and Network Servers of a communication range, a response becomes good and display speeds, such as a drawing, speed up. Moreover, since the Network Server of another side will function as a backup server even when one Network Server is downed if the same function as both servers is given, there is no fear of causing trouble to operating execution.

[0014] In the components specification creation system of claim 6, the near Network Server of a communication range is characterized by having an updating means to update drawing DETARU and/or components information on own, when the drawing data of the far Network Server of a communication range and/or the existence of modification of components information are supervised and there is modification. With such a configuration, also in the Network Server by the side of the short distance which a network terminal accesses, if a user chooses components from on a drawing, for example even when components information has modification since drawing data and components information are always updated by the newest thing, the newest components information on this component will be certainly listed by the part list.

[0015] In the components specification creation system of claim 7, said component is a component part of a construction equipment, there are many especially components mark, and it is more effective in a ** sake to an operating improvement that components information, such as a lot number, also uses this system in the components of a confusing construction equipment.

[0016] While the components specification creation approach of claim 8 calls the drawing data of components required for creation of a components specification from the database built including the drawing data of the drawing in which components are shown, and the components information on said component After choosing said component from the drawings which were made to display the drawing based on the drawing data concerned on a screen, and were displayed, Call the components information corresponding to the drawing data of the selected components from said database, list-ize called components information, said screen is made to display on said drawing and coincidence, and it is characterized by drawing up said components specification automatically based on the list of this component. Such a creation approach can be realized using said system according to claim 1 etc., and the purpose of this invention is attained.

[0017] The storage of claim 9 is characterized by memorizing the computer program which performs said components specification creation approach according to claim 8. The purpose of this invention is attained by performing the system of claim 1 using such a computer program.

[0018]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained based on a drawing. [Outline of a system] Drawing 1 is drawing showing typically the whole outline of the components specification creation system 1 concerning this operation gestalt. The components specification creation system 1 is a system which draws up the components specification of the components which constitute a construction equipment, and is used chiefly in the user who owns a construction equipment, and the selling firm which sells the construction equipment itself and its component. It is specifically used for drawing up the components specification at the time of a request for quotation and an order of the components to a selling firm to a user side, and is used for drawing up the components specification at the time of components order to the estimated reply and manufacturer to the request from a user in a selling firm side.

[0019] Such a components specification creation system 1 is realized using the computer network of the intranet 2 in a manufacturer which consists of a communication circuit network of dedication built in the construction machine builder, the same ***** intranet 3 built in the selling firm, and the Internet 4 grade using a public communication circuit network.

[0020] In the intranet 2 in a manufacturer, two or more ***** intranets 3 are connected with the host computer 20 by the side of a manufacturer. A host computer 20 functions as a Network Server on the intranet 2 in a manufacturer which supplies various information and data required as a components specification creation system 1. The network terminal by the side of two or more manufacturers who do not illustrate is connected to the intranet 2 in a manufacturer.

[0021] The ** Co. side server 30 as a Network Server, the network terminal 40 by the side of two or more users (henceforth a client terminal), and 40 -- are connected to the ***** intranet 3. The ** Co. side server 30 is also a server which supplies various information and data required as a components specification creation system 1, and is equipped with the same function as a host computer 20 and abbreviation. The network terminal for two or more selling firms which is not illustrated is connected also to such ***** intranet 3.

[0022] Here, a host computer 20 is a server with the far communication range from the client terminal 40, and the ** Co. side server 30 is a near server of a communication range. The client terminal 40 usually accesses the near ** Co. side server 30 of a communication range. That is, it is possible to use the components specification creation system 1 in the good condition of a response because the ** Co. side server 30 which exists at a short distance functions as the so-called clone server of a host computer 20.

[0023] This host computer 20, the ** Co. side server 30, and the client terminal 40 are equipped with the browser (viewer) which can respond to each network. Therefore, if it has use authentication of this system 1 and the browser of a parenthesis and the software for specification creation are installed, it is possible not to connect with each intranets 2 and 3, but to be able to access a host computer 20 and the ** Co. side server 30 through a provider, and to, use the components specification creation system 1 from client terminal 40' connectable only with the Internet 4 etc., for example.

[0024] Moreover, the host computer 20 and the ** Co. side server 30 also have the function of a mail server. E-mail software is installed in the terminal by the side of the manufacturer who was connected to each intranets 2 and 3 and who does not illustrate, the terminal by the side of a selling firm, and the client terminal 40, respectively, and it is possible to transmit and receive the components specification drawn up to each site between [between terminals] each site.

[0025] [** Co. side server] Below, the configuration and function of the ** Co. side server 30 which the client terminal 40 mainly accesses are explained previously first. An acquisition means 31 by which the ** Co. side server 30 acquires a signal from a network in drawing 2, The control means 32 which performs predetermined control according to the signal acquired with this acquisition means 31, It consists of an output means 33 to output the signal according to the result in a control means 32 to a network, a storage means 34 by which various information and data, and a program were accumulated, and a components specification carrier transmitting means 35 to transmit and receive the drawn-up components specification. Among these, the acquisition means 31, a control means 32, and the output means 33 consist of a computer program (software) performed by CPU etc., and especially the components specification carrier transmitting means 35 consists of e-mail software mentioned above.

[0026] The acquisition means 31 is equipped with the model name acquisition means 311, the equipment name acquisition means 312, the drawing name acquisition means 313, and the information retrieval means 314 as a configuration characteristic of this operation gestalt. The control means 32 is equipped with the model retrieval means 321, the equipment retrieval means 322, the information retrieval means 323, and the updating means 324. The output means 33 is equipped with the model name output means 331, the model name output means 332, the equipment name output means 333, and the information output means 334. About the function of these means, it mentions later.

[0027] The storage means 34 consists of a hard disk as a storage etc., the contents indicated by the conventional parts list etc. are memorized by this storage means 34 as electronic intelligence, and as information characteristic of this operation gestalt, or data, as shown in drawing 3 R> 3 thru/or drawing 8, the model table 341, the model table 342, the equipment table 343, the drawing table 344, the components table 345, and the A'ssy table 346 are memorized. In addition, said each means 31, 32, 33, and 35 which are computer programs are also memorized by this storage means 34.

[0028] drawing 3 -- setting -- the model table 341 -- a "clay" "bulldozer small" "bulldozer -- large-sized -- the model name which divided construction equipments, such as "--, roughly is stored. In drawing 4, the name of a model is stored in the model table 342 for said every model. For example, "in the model of hydraulic-excavator medium size", it is "PC100-6 S/N 40001-UP", "PC100L-6 S/N 15001-UP" -- A model exists.

[0029] In drawing 5, the name of the equipment which constitutes this for every model is stored in the equipment table 343. For example, the model of "PC100-6 S/N 40001-UP" is "a fuel tank and an associated part", and "electric system". -- It consists of equipment. In drawing 6, the name of two or more drawings with which said equipment was drawn, and the drawing data of each drawing are stored in the drawing table 344. For example, the equipment of "axle part" will be drawn on the drawing of two or more names called "truck shoe (HEIKATSU type)" and "truck shoe (triple grouser NAUKI)" (#31152) --. In addition, with this operation gestalt, drawing data are stored as a file of a bit map format.

[0030] In drawing 7, the lot number which is the components information on all the components drawn on said drawing, a name, the number, etc. are stored in the components table 345 corresponding to predetermined index information. for example, the components of "201-30-00291" and "201-30-72371" -- draw on the drawing of the name of "the track roller (#52374-)" in which the equipment of axle part is shown -- having -- **** -- respectively -- being alike -- the index information on "A" and "1" -- is given. In addition, in the components table 345, when there are components from which a lot number differs by the same name, it is the newest lot number to which index information is given, and the old watch is not given.

[0031] In drawing 8, the lot number and name of small components for every assembly components are stored in the A'ssy table 346. For example, "201-30-00291" shown also on said components table 345 is assembly components, and means the thing of "201-30-72371", "201-30-72371", and "201-30-72410" -- which consists of small components.

[0032] [Host computer] On the other hand, the host computer 20 has fundamentally the storage means 24 which consists of a hard disk as the same acquisition means 21 as the ** Co. side server 30 and abbreviation, a control means 22, the output means 23, and a storage etc., and the components specification carrier transmitting means 25 which is e-mail software like, as shown in drawing 9. In addition, the control means 22 of a host computer 20 is equipped with the reply information reflection means 221. About the function of the reply information reflection means 221, it mentions later.

[0033] Moreover, in addition to each of the same table as the ** Co. side server 30, the price table 241 shown in drawing 10 is memorized by the storage means 24. The price is stored in the price table 241 corresponding to the lot number and name of all components which constitute a construction equipment. Furthermore, the inventory table 242 (drawing 15) is memorized by the storage means 24. Although illustration is omitted, the number of inventories of the components which the manufacturer holds is stored in the inventory table. However, the storage means 34 of the ** Co. side server 30 may be made to memorize such the price table 241 and the inventory table 242 if needed. In addition, said each means 21, 22, 23, and 25 which are computer programs are also memorized by this storage means 24.

[0034] Whenever each table within such a storage means 24 has modification of information and data, it is

updated, and the newest contents are always stored. For example, when the lot number of components is changed, while the lot number in a components table is changed into the newest number, from the lot number used as the old watch, index information is removed and, instead, it is given to the newest lot number. Moreover, when the configuration of components is changed, the drawing data of the corresponding components are updated.

[0035] [Client terminal] The client terminal 40 has the function which draws up a components specification based on this information and data, and consists of a personal computer etc. while it acquires the information and data of required components through a network. Specifically, the client terminal 40 is equipped with the acquisition means 41, the control means 42, the output means 43, the storage means 44 that consists of a hard disk as a storage etc., and the components specification carrier transmitting means 45 which is e-mail software. In addition, the network terminal by the side of the manufacturer who does not illustrate, and a selling firm is also the same configuration as abbreviation.

[0036] The acquisition means 41 is equipped with the information acquisition means 411 and the drawing information acquisition means 412 as a characteristic configuration in this operation gestalt. The control means 42 is equipped with the information write-in means 421, the part list creation means 422, the duplex acquisition prevention means 423, and the components specification creation means 424. The output means 43 is equipped with the part list output means 431 and the components detail write-out force means 432. The information table 441 of the contents shown in drawing 12 will be memorized by the storage means 44. Moreover, said each means 41, 42, 43, and 45 which are computer programs are also memorized by this storage means 24. About the function and the information table 441 of each means, it mentions later.

[0037] [Creation of the components specification by the user and transmission] The flow of the whole components specification creation which used this system 1 is divided into two or more blocks, and is shown in drawing 13. The flow chart of the main strokes of components specification creation is shown in drawing 14 and drawing 15. The contents displayed on display 40A which is the indicating equipment of the client terminal 40 are shown in drawing 16 thru/or drawing 24. while explaining the creation procedure of a components specification also with reference to these drawings below -- this procedure -- meeting -- the ** Co. side server 30 -- each -- the function of means 311-314,321-324,331-334, the reply information reflection means 221 of a host computer 20, and each means 411,412,421-424,431,432 of the client terminal 40 is also explained.

[0038] First, in the block ("a block" is expressed in explanation of in drawing and the following as "BL") 1 shown in drawing 13, if this system 1 is started, the model name output means 331 of the ** Co. side server 30 will call the model name of a construction device from the model table 341 within the storage means 34, and as shown in drawing 16, it will display it on display 40A of the client terminal 40.

[0039] According to this, a user chooses whether components to come to hand are used for which model using mouse 40B which is an input unit. The condition of having chosen the "hydraulic-excavator medium size" is shown by drawing 16. In the ** Co. side server 30 side, the signal with which the information on a "hydraulic-excavator medium size" was supported is acquired with the model name acquisition means 311. And the model retrieval means 321 of a control means 32 searches and calls the model name corresponding to the acquired model name from the model table 342. Furthermore, the model name output means 332 outputs the called model name to the client terminal 40, and as shown in drawing 17, it displays it on display 40A of the client terminal 40 hierarchical.

[0040] A user chooses whether components are used for which model. The condition of having chosen "PC300-6 S/N 30001-UP" as a model is shown by drawing 17. In the ** Co. side server 30 side, the signal with which the information on "PC300-6 S/N 30001-UP" was supported is acquired with the model name acquisition means 312. And the equipment retrieval means 322 searches and calls the equipment name corresponding to the acquired model name from the equipment table 343. The equipment name output means 333 outputs the called equipment name to the client terminal 40, and as shown in drawing 18, it displays it on display 40A.

[0041] if the components to need are ***** about axle part equipment, a user will choose "axle part" on a screen. In the ** Co. side server 30 side, the signal with which this information was supported is acquired with

the equipment name acquisition means 313. The information retrieval means 323 searches only the name of the drawing with which the corresponding equipment was drawn from the drawing table 344, and is called. The information output means 334 outputs the called drawing name to the client terminal 40, and as shown in drawing 19, it displays it on display 40A.

[0042] A user chooses the drawing name of "the track roller (#52374)" with which required components are drawn. The drawing name acquisition means 314 of the ** Co. side server 30 acquires the signal with which "the track roller (#52374)" which is a drawing name was supported, and the information retrieval means 323 searches the drawing data which correspond from the drawing table 344, and it calls it. Then, the information output means 334 displays a drawing 50 for ***** on drawing data, as the drawing data concerned are outputted to the client terminal 40 and shown in the left-hand side in drawing 20.

[0043] Furthermore, in the ** Co. side server 30 side, if a drawing name "a track roller (#52374)" is acquired with the drawing name acquisition means 314, the information retrieval means 323 will retrieve and call the index information corresponding to this drawing name, a lot number, a name, and the components information on number -- from the components table 345. the information output means 334 -- call appearance -- the bottom -- each information -- the client terminal 40 -- outputting -- the right in drawing 20 -- as shown in the middle, it displays as the drawing 50 mentioned above, simultaneously Table 51. Under the present circumstances, the sign given to each part article in a drawing 50 is in agreement with the index information given to each lot number in Table 51.

[0044] The stroke so far is performed to the Lord of the client terminal 40 by the function of a browser between the ** Co. side servers 30. The stroke of the continuing following is performed to the Lord installed in the client terminal 40 by components specification creation software (each means 422-424,431,432) by this client terminal 40 independent one.

[0045] First, as shown also in step (a "step" is expressed as "ST" in explanation of in drawing and the following) 1 of drawing 14, in the client terminal 40 side, it acquires with said drawing data outputted from the ** Co. side server 30, index information and a lot number, a name, and an information acquisition means 411 of number -- to constitute the acquisition means 41 of the client terminal 40 for components information. The information write-in means 421 of a control means 42 is memorized for the storage means 44 by using these information and data as the information table 441, as shown in drawing 12. Under the present circumstances, drawing data are memorized as a bitmap file for every components.

[0046] Then, the part list creation means 422 of a control means 42 outputs the template of the list beforehand memorized by the storage means 44 to display 40A through the part list output means 431, and as shown in the lower right stage in drawing 20, it displays it on coincidence as the drawing 50 and Table 51 which were mentioned above by using this list as a part list 52. Even the above is the stroke of BL1 of drawing 13.

[0047] In BL2 of drawing 13, a user chooses the sign to which the components needed were given by a header and this component from the displayed drawing 50 by mouse 40B. However, a part for the line part which shows components may be chosen. The condition of having chosen the components of a sign "2" is shown by drawing 20. Under the present circumstances, it is desirable to make the components selection which made intelligible the components which, and the foreground color of (drawing 20 R>0), a sign, a leader line, and components was changed, or the shade of brightness was changed, displayed, and were chosen, and overlapped prevent. [surrounding the sign of the selected components by "O"]

[0048] The drawing information acquisition means 412 of the client terminal 40 acquires the drawing data of the components containing the selected sign "2." In BL3, the part list creation means 422 searches and calls the lot number of the components corresponding to the acquired drawing data, a name, the number, etc. from the information table 441. The part list output means 431 outputs the called components information to the client terminal 40, and incorporates it into a part list 52. Under the present circumstances, the part list output means 431 in this operation gestalt also has the function to prepare cel parts, such as a function on which an application number machine, a model name, etc. are displayed, and a "unit price", the "amount of money", in a part list 52. -- (ST2 completion by drawing 14)

[0049] In BL6 and BL7, the duplex acquisition prevention means 423 of the client terminal 40 checks whether

the user has chosen both assembly components and the small components which constitute this. If a user chooses both assembly components and small components and incorporates in a part list 52, the problem that small components overlap and are chosen will arise. Then, when such selection is made, the duplex acquisition prevention means 423 eliminates the selected small components from a part list 52, leaves only assembly components, and prevents duplex acquisition of small components.

[0050] For example, if the sign "A" of the assembly components constituted including this component is chosen on a drawing 50 after choosing a sign "2" from the inside of a drawing 50 and displaying components information, such as a lot number "211-30-72410", in a part list 52 From the inside of a part list 52, components information, such as a lot number "211-30-72410" which are small components, is eliminated, and components information [on the assembly components concerning a sign "A"], i.e., lot number, "201-30-00291" and name "truck roller assembly" -- remains, and is displayed.

[0051] A components specification is drawn up in BL8. When the screen in the client terminal 40 is in the condition which shows in drawing 20, a user chooses "a transfer to a specification and a selling firm" in the memorandum displayed above Table 51. Then, the components specification creation means 424 calls the template of a components specification from the storage means 44, and displays the components detail write-out force means 432 as a components specification 60 which shows this template to drawing 21. Let the inside of each cel of the components specification 60 be a blank in this phase. Next, a user chooses "data incorporation (R)" from the menu bar on a screen. In response, the components specification creation means 424 calls the components information displayed in the part list 52 like the point, and the components detail write-out force means 432 displays this components information in the components specification 60. And a user inputs need matters, such as the creation date of the components specification 60, and an implementer, into a predetermined cel, and completes the components specification 60. -- (completion of ST3)

Furthermore, it progresses to degree stroke as a user mode succeedingly from creation of the components specification 60 being performed by the user side. -- (completion of ST4)

[0052] In BL9 and BL10, the components specification 60 drawn up by BL8 is printed if needed, it leaves as a document and the components specification 60 is saved at a hard disk etc. Printing of the components specification 60 chooses a "file" from the menu bar of the screen displayed on drawing 21, and should just choose the menu of printing from the displayed pull down menu. The preview screen of the components specification 60 printed by the user side is shown in drawing 22. -- (completion of ST5 and ST6)

[0053] On the other hand, when an estimate is requested or a user orders components to a selling firm in BL11-BL13 (order), the components specification carrier transmitting means 45 which consists of e-mail software is started. The components specification carrier transmitting means 45 transmits the components specification 60 to the address of a selling firm set up in the ** Co. side server 30, and saves a transmitting log in a terminal 40. -- (completion of ST8)

[0054] [Flow on the components detail dictation treatment by the side of a selling firm and a manufacturer] Below, the handling of the components specification by the side of a selling firm and a manufacturer is succeedingly explained with reference to drawing 13 - drawing 15. In BL14 of drawing 13, by the selling firm side, the terminal connected to the ***** intranet 3 is operated, the components specification 60 is received from the selling firm side server 30, and in BL15, as shown in drawing 23, the components specification 60 is displayed on a display. When the components specification 60 is received as an object for the requests for quotation from a user side, in this phase, the unit price of components, the amount of money, the time-for-delivery information by the existence of an inventory, etc. are not inputted in the components specification 60. Next, in a selling firm, selection "online screen write-in (W)" is made from the menu bar on the screen of drawing 23. In response, the terminal by the side of a selling firm transmits the components specification 60 to the host computer 20 by the side of a manufacturer through bridge software. -- (completion of ST9)

[0055] In BL16 and BL17, the components specification 60 is first received through bridge software with the host computer 20 by the side of a manufacturer. And the reply information reflection means 221 of a control means 22 retrieves and calls the information concerning the price and the number of inventories of components corresponding to the components information in the components specification 60 from the price inventory table 241 and 242 within the storage means 24, and is made to reflect it in the components

specification 60. -- (completion of ST10)

Then, a host computer 20 returns the components specification 60 into which the information on all abbreviation was inputted to the ** Co. side server 30 through bridge software. -- (completion of ST11 in drawing 15)

[0056] Again, in BL15, after receiving the components specification 60 and displaying like drawing 23 (the unit price of components, the amount of money, and the time-for-delivery information by the existence of an inventory are incorporated in this phase), need matters, such as the creation date and an implementer, are inputted in a selling firm. -- (completion of ST12)

Subsequently, in BL18 and BL19, the need for printing of the components specification 60 is judged, if required, it will print, and the components specification 60 is saved. The preview screen of the components specification 60 printed by the selling firm side is shown in drawing 24. Such printing and preservation can be carried out like actuation with the client terminal 40 by the side of a user. -- (completion of ST12-ST15) next -- or after judging that said printing is unnecessary, in BL20 and BL21, a selling firm transmits to a user side with a transceiver means (e-mail), using the components specification 60 as an object for the estimates by the side of a user. In such a case, what is necessary is to specify a user's origination address and just to transmit. On the other hand, when sending the components specification 60 by mail etc. separately, the data of the components specification 60 are saved that what is necessary is just to send the printed components specification 60. -- (completion of ST16-ST20)

[0057] Next, if satisfactory after a user side examines the amount of money and time-for-delivery information which were indicated by the components specification 60 of this estimate especially, it will broadcast the components specification 60 concerned again to a selling firm as an object for the order sheets of components. This transmitting procedure is performed by the same actuation explained by BL11-BL13. And since information, such as the amount of money, is already indicated by the components specification 60 in the selling firm which receives by BL14, in BL22, a selling firm transmits the components specification 60 to a host computer 20, and places an order with it for components to a manufacturer. The transfer procedure of the components specification 60 in this case is the same as the transfer procedure from a user side to a selling firm (see the explanation of BL11-BL13). -- (completion of ST21 in drawing 14)

[0058] In addition, in [of components] possessing an inventory in a selling firm and also performing a setup of a price etc. in a selling firm Since it is not necessary to access a host computer 20 and to acquire the information on the number of inventories, or a price to the request for quotation by the side of a user That what is necessary is just to perform an estimated reply to a user side using said a selling firm's own price and inventory information, after receiving the order sheet of components from a user side What is necessary is to ship the components under inventory by self to a user side, and just to deliver them, since it is not necessary to order components from a manufacturer side (mind of "dispatch" of BL22).

[0059] By the way, in order to raise the dependability of components etc., the configuration, quality of the material, etc. may be changed a little. And a manufacturer side performs renewal of the drawing data and the lot number accompanying this modification about the drawing table and components table in a host computer 20. Such updating is supervised with the updating means 324 of the ** Co. side server 30. If updating with a host computer 20 accomplishes, the updating means 324 will download automatically the information and data which were updated, and will update the contents of the drawing components table 344 and 345 of the ** Co. side server 30.

[0060] [Effectiveness of an operation gestalt] According to this above operation gestalt, there is the following effectiveness.

(1) In the components specification creation system 1, in drawing up the components specification 60 used for a request for quotation and an order of components, a user displays the drawing 50 with which required components are drawn on display 40A of the client terminal 40, what is necessary is just to choose the components concerned by mouse 40B etc. from these drawings 50, and the components specification 60 can be automatically drawn up from the lot number of the selected components etc. Therefore, the troublesome activity of discovering a lot number, a name, etc. of components from a parts list, or posting them from a parts list can be excluded, and the efficiency of business can be increased.

[0061] (2) Since the client terminal 40 by the side of a user is equipped with the duplex acquisition prevention means 423, even when both assembly components and the small components which constitute this are chosen, it can eliminate the components information by the side of small components, can leave the components information on assembly components to a part list 52, and can prevent overlapping and acquiring small components certainly.

[0062] (3) To the host computer 20 by the side of a manufacturer While the price table 241 on which the price information of components was stored, and the inventory table 242 on which inventory information was stored are memorized, this host computer 20 Since it has a reply information reflection means 221 to reflect such information in the components specification 60, in a selling firm side Only by transmitting the components specification 60 for requests for quotation received from the user to a host computer 20 side, a price, the time for delivery based on the number of inventories, etc. can be reflected in the components specification 60 correctly and quickly, and estimate creation business for answering to a request for quotation can be performed efficiently.

[0063] (4) Since the client terminal 40 by the side of a user acquires the information and data for components specification 60 creation from the near ** Co. side server 30 of a communication range, it can make responsibility good as compared with the case where it acquires from the host computer 20 by the side of a manufacturer, and can perform creation of the components specification 60 -- the display speed of a drawing 50 or Table 51 can be sped up -- in a short time.

[0064] (5) Moreover, even when the case where the ** Co. side server 30 which a user accesses frequently by giving this function to both a host computer 20 and the ** Co. side server 30, or building the database of the same contents of storage is downed, information, and data carry out [lose / in a certain reason], it can back up by the host computer 20 side, and there is no fear of causing bearing to operating execution in any way. In addition, in a selling firm side, since it is not necessary to backup such a database, as a ** Co. side server 30, there is no object for ** which prepares high efficiency and a mass machine so much, and it is economical.

[0065] (6) Since the user who draws up the components specification 60 starts with choosing the model of a construction equipment and should just choose a name detailed hierarchical etc. one by one, even when deficient in a know how compared with the person in charge by the side of a selling firm or a manufacturer, he can arrive certainly to selection of the drawing name with which required components were drawn, and can make user-friendliness of this system 1 good.

[0066] (7) Since a part list 52 is displayed on coincidence as a drawing 50 while the user has chosen required components from a drawing 50, it can check easily whether the components information on the selected components is correctly incorporated by the part list 52, choosing components, and the user-friendliness of this system 1 can be raised also from this point.

[0067] (8) Since an exchange of a host computer 20, the ** Co. side server 30, and the components specification 60 mutual [between the client terminals 40] is performed using the components specification carrier transmitting means 25, 35, and 45 which consist of e-mail software, it can print and mail the components specification 60, or can save the time and effort to bring, and can promote more the increase in efficiency of the activity of each site concerning components purchase or sale.

[0068] In addition, this invention is not limited to said operation gestalt, and deformation as shown below etc. is included in this invention including other configurations which can attain the purpose of this invention. For example, although it was the system which the components specification creation system 1 of said operation gestalt uses as a database the information and data of the various tables 341-346 which were memorized in the ** Co. side server 30, draws up a components specification chiefly, and is used for the request for quotation of components, an estimate, an order, etc. The retrieval function in which one of other information can be retrieved may be added from the information on a drawing besides such a function, a lot number, equipment, or the models etc. Moreover, the function in which the number displayed on the part list 52, a price, etc. can be changed by the user and selling firm side may be added. Furthermore, the function in which it can leave memorandum writing in the display screen of arbitration may be added. Such memorandum writing functions may be what was set up so that only a user [who wrote in], or selling firm side could see, and a

thing to see on both sides and which can be elaborate.

[0069] The components specification creation system concerning this invention is used for purchase and selling business of components, and also it is available to a request for quotation, an order, etc. of a new construction equipment. In the two-dot chain line in drawing 13, the flow to the specification creation in such a case is shown. That is, the ** Co. side server 30 is made to memorize the attachment table which stored attachments, such as a bucket, for every model, the catalog table on which the information on each catalog was stored, and the spec. table on which the engine performance and size-spec. for every model were stored. A user calls and displays such information on a client terminal, the information which chose and chose required information on the screen based on the specification of the construction equipment of a purchase schedule is displayed as a part list, and, finally it drops into a components specification. Even in such a case, it cannot leak and the lot number of a construction equipment and the lot number of an attachment can be correctly told to a selling firm.

[0070] The information or data which were memorized by the storage means 24 of a host computer 20 do not need to memorize the information on other foil loaders, a hydraulic excavator, etc., when all do not need to be memorized by the storage means 34 of the ** Co. side server 30, for example, a selling firm treats only a bulldozer. According to this, the hard disk of the ** Co. side server 30 etc. is made into what has more small storage capacity, and, as for the memorized information, only few parts can make system response nature good an economical top. Moreover, time amount concerning download of the information from a host computer 20 side etc. can also be shortened, and does not require time and effort.

[0071] In said operation gestalt, although the first components specification 60 was drawn up by the user side, such a components specification may be drawn up at the network terminal by the side of a selling firm or a manufacturer. For example, a selling firm side draws up a components specification, and this components detail should be transmitted [just / when the user does not have the terminal connected to the network] in the cases, such as incorporation of a price and the number of inventories, or order of components, and received between the host computers 20 by the side of a manufacturer. And what is necessary is just to carry out facsimile, mailing, bringing, etc., after printing etc. carries out a components specification to a user side.

[0072] Although it was attached to the components specification 60 of the components which constitute a construction equipment and said operation gestalt explained, as components of the components specification concerning this invention, you may be the components which constitute the goods of all fields, such as others, other machines and an equipment, an automobile, a residence, leisure goods, and necessities, and may be the goods itself. [components / of a construction equipment] The example about the components specification creation of those other than the components of a construction equipment is shown in drawing 25 thru/or drawing 27 R> 7. In drawing 25, the goods name of goods, such as "concrete related equipments", "end-dam piping relation", "reinforcement and griddle processing machine", and "agriculture-and-forestry horticulture related" --, is displayed on display 40A of a client terminal. Such a goods name is memorized by the storage means of a Network Server as a goods name table.

[0073] From such a display condition, selection of a "house" displays drawing names, such as "lumber room made from steel (normal mode)", and "lumber room made from steel (thin series)" --, for example, as shown in drawing 26. Such a drawing name is memorized as a drawing table or an information table by the storage means in a server side or the end of a user side edge, and the drawing data corresponding to each drawing name are stored in this drawing table. If it follows, for example, a user chooses a "unit house" as a drawing name, as shown in drawing 27, while the drawing 50 with which the unit house was drawn is displayed, Table 51 for components information, such as index information [about each unit house in a drawing 50], format, lot number, span direction, and ceiling height --, will be displayed on display 40A by the side of a user.

[0074] And if the sign "KU7060" of a unit house which a user wishes is chosen with a mouse etc. from these drawings 50, the components information on the unit house corresponding to the drawing data containing this sign will be listed in the goods list 53 as a part list. Subsequently, the components specification creation means within a client terminal (refer to drawing 11) draws up the goods specification as a components specification based on the information in this goods list 52. As mentioned above, a specification can be drawn up quickly and correctly also except the component part of a construction equipment.

[0075] The network built in order to realize the components specification creation system of this invention is not limited to what is shown in said operation gestalt, but is arbitrary. For example, as the minimum network, the client terminal by the side of a user should just be connected with the Network Server by the side of a manufacturer or a selling firm on-line.

[0076] Moreover, especially as a network terminal by the side of a user (client terminal), you may be a cellular phone, a Personal Digital Assistant (PDA), etc. which have other, for example, a browser, ability [personal computer]. According to such a terminal, this system can be effectively used through a network even from locations, such as a job site where the communication line or source power supply of a cable are not fixed.

[0077] Furthermore, the system of this invention is constituted from the Network Server and network terminal which were connected through the network, and also it is contained in invention of said claim 1 even if a stand-alone type computer realizes. Even in such a case, a components specification can be drawn up quickly and certainly using drawing data and components information in a database, and the purpose of this invention can be attained.

[0078] You may be the optical disk used in order to install a program on such a hard disk besides the hard disk which constitutes the storage means of a network server or a network terminal as a storage of this invention, and the storage of arbitration with which the computer program for performing this system was memorized is included.

[0079]

[Effect of the Invention] As stated above, according to this invention, a user can exclude the troublesomeness treating components information, such as a lot number, that what is necessary is just to choose a required drawing name and required components from on the display screen, and is effective in the ability to draw up a components specification quickly and correctly.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the storage which memorized the computer program which performs the creation system of the components specification used for a request for quotation, order, etc. of the components which constitute a construction equipment, the components specification creation approach, and the components specification creation approach.

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PRIOR ART

[Background of the Invention] Conventionally, construction equipments, such as a foil loader and a bulldozer, are known. It is necessary to purchase components from a construction-equipment selling firm etc. in the case of exchange of the components accompanying failure and a periodical inspection of such a construction equipment. In purchasing components, a request for quotation is performed to a selling firm from the user side who owns a construction equipment first. After a selling firm side receives the request for quotation from a user and performs the check of the number of inventories by the side of self or a manufacturer, or a components unit price, it draws up an estimate and sends it to a user side. Then, according to an estimate, an order sheet is published from a user side in a dealer. Moreover, although components may be soon purchased from a manufacturer side depending on a situation, such even case, usually a user side requests an estimate to a manufacturer side.

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EFFECT OF THE INVENTION

[Effectiveness of an operation gestalt] According to this above operation gestalt, there is the following effectiveness.

(1) In the components specification creation system 1, in drawing up the components specification 60 used for a request for quotation and an order of components, a user displays the drawing 50 with which required components are drawn on display 40A of the client terminal 40, what is necessary is just to choose the components concerned by mouse 40B etc. from these drawings 50, and the components specification 60 can be automatically drawn up from the lot number of the selected components etc. Therefore, the troublesome activity of discovering a lot number, a name, etc. of components from a parts list, or posting them from a parts list can be excluded, and the efficiency of business can be increased.

[0061] (2) Since the client terminal 40 by the side of a user is equipped with the duplex acquisition prevention means 423, even when both assembly components and the small components which constitute this are chosen, it can eliminate the components information by the side of small components, can leave the components information on assembly components to a part list 52, and can prevent overlapping and acquiring small components certainly.

[0062] (3) To the host computer 20 by the side of a manufacturer While the price table 241 on which the price information of components was stored, and the inventory table 242 on which inventory information was stored are memorized, this host computer 20 Since it has a reply information reflection means 221 to reflect such information in the components specification 60, in a selling firm side Only by transmitting the components specification 60 for requests for quotation received from the user to a host computer 20 side, a price, the time for delivery based on the number of inventories, etc. can be reflected in the components specification 60 correctly and quickly, and estimate creation business for answering to a request for quotation can be performed efficiently.

[0063] (4) Since the client terminal 40 by the side of a user acquires the information and data for components specification 60 creation from the near ** Co. side server 30 of a communication range, it can make responsibility good as compared with the case where it acquires from the host computer 20 by the side of a manufacturer, and can perform creation of the components specification 60 -- the display speed of a drawing 50 or Table 51 can be sped up -- in a short time.

[0064] (5) Moreover, even when the case where the ** Co. side server 30 which a user accesses frequently by giving this function to both a host computer 20 and the ** Co. side server 30, or building the database of the same contents of storage is downed, information, and data carry out [lose / in a certain reason], it can back up by the host computer 20 side, and there is no fear of causing bearing to operating execution in any way. In addition, in a selling firm side, since it is not necessary to backup such a database, as a ** Co. side server 30, there is no object for ** which prepares high efficiency and a mass machine so much, and it is economical.

[0065] (6) Since the user who draws up the components specification 60 starts with choosing the model of a construction equipment and should just choose a name detailed hierarchical etc. one by one, even when deficient in a know how compared with the person in charge by the side of a selling firm or a manufacturer, he can arrive certainly to selection of the drawing name with which required components were drawn, and can

make user-friendliness of this system 1 good.

[0066] (7) Since a part list 52 is displayed on coincidence as a drawing 50 while the user has chosen required components from a drawing 50, it can check easily whether the components information on the selected components is correctly incorporated by the part list 52, choosing components, and the user-friendliness of this system 1 can be raised also from this point.

[0067] (8) Since an exchange of a host computer 20, the ** Co. side server 30, and the components specification 60 mutual [between the client terminals 40] is performed using the components specification carrier transmitting means 25, 35, and 45 which consist of e-mail software, it can print and mail the components specification 60, or can save the time and effort to bring, and can promote more the increase in efficiency of the activity of each site concerning components purchase or sale.

[0068] In addition, this invention is not limited to said operation gestalt, and deformation as shown below etc. is included in this invention including other configurations which can attain the purpose of this invention. For example, although it was the system which the components specification creation system 1 of said operation gestalt uses as a database the information and data of the various tables 341-346 which were memorized in the ** Co. side server 30, draws up a components specification chiefly, and is used for the request for quotation of components, an estimate, an order, etc. The retrieval function in which one of other information can be retrieved may be added from the information on a drawing besides such a function, a lot number, equipment, or the models etc. Moreover, the function in which the number displayed on the part list 52, a price, etc. can be changed by the user and selling firm side may be added. Furthermore, the function in which it can leave memorandum writing in the display screen of arbitration may be added. Such memorandum writing functions may be what was set up so that only a user [who wrote in], or selling firm side could see, and a thing to see on both sides and which can be elaborate.

[0069] The components specification creation system concerning this invention is used for purchase and selling business of components, and also it is available to a request for quotation, an order, etc. of a new construction equipment. In the two-dot chain line in drawing 13, the flow to the specification creation in such a case is shown. That is, the ** Co. side server 30 is made to memorize the attachment table which stored attachments, such as a bucket, for every model, the catalog table on which the information on each catalog was stored, and the spec. table on which the engine performance and size-spec. for every model were stored. A user calls and displays such information on a client terminal, the information which chose and chose required information on the screen based on the specification of the construction equipment of a purchase schedule is displayed as a part list, and, finally it drops into a components specification. Even in such a case, it cannot leak and the lot number of a construction equipment and the lot number of an attachment can be correctly told to a selling firm.

[0070] The information or data which were memorized by the storage means 24 of a host computer 20 do not need to memorize the information on other foil loaders, a hydraulic excavator, etc., when all do not need to be memorized by the storage means 34 of the ** Co. side server 30, for example, a selling firm treats only a bulldozer. According to this, the hard disk of the ** Co. side server 30 etc. is made into what has more small storage capacity, and, as for the memorized information, only few parts can make system response nature good an economical top. Moreover, time amount concerning download of the information from a host computer 20 side etc. can also be shortened, and does not require time and effort.

[0071] In said operation gestalt, although the first components specification 60 was drawn up by the user side, such a components specification may be drawn up at the network terminal by the side of a selling firm or a manufacturer. For example, a selling firm side draws up a components specification, and this components detail should be transmitted [just / when the user does not have the terminal connected to the network] in the cases, such as incorporation of a price and the number of inventories, or order of components, and received between the host computers 20 by the side of a manufacturer. And what is necessary is just to carry out facsimile, mailing, bringing, etc., after printing etc. carries out a components specification to a user side.

[0072] Although it was attached to the components specification 60 of the components which constitute a construction equipment and said operation gestalt explained, as components of the components specification concerning this invention, you may be the components which constitute the goods of all fields, such as others,

other machines and an equipment, an automobile, a residence, leisure goods, and necessities, and may be the goods itself. [components / of a construction equipment] The example about the components specification creation of those other than the components of a construction equipment is shown in drawing 25 thru/or drawing 27 R> 7. In drawing 25, the goods name of goods, such as "concrete related equipments", "end-dam piping relation", "reinforcement and griddle processing machine", and "agriculture-and-forestry horticulture related" --, is displayed on display 40A of a client terminal. Such a goods name is memorized by the storage means of a Network Server as a goods name table.

[0073] From such a display condition, selection of a "house" displays drawing names, such as "lumber room made from steel (normal mode)", and "lumber room made from steel (thin series)" --, for example, as shown in drawing 26. Such a drawing name is memorized as a drawing table or an information table by the storage means in a server side or the end of a user side edge, and the drawing data corresponding to each drawing name are stored in this drawing table. If it follows, for example, a user chooses a "unit house" as a drawing name, as shown in drawing 27, while the drawing 50 with which the unit house was drawn is displayed, Table 51 for components information, such as index information [about each unit house in a drawing 50], format, lot number, span direction, and ceiling height --, will be displayed on display 40A by the side of a user.

[0074] And if the sign "KU7060" of a unit house which a user wishes is chosen with a mouse etc. from these drawings 50, the components information on the unit house corresponding to the drawing data containing this sign will be listed in the goods list 53 as a part list. Subsequently, the components specification creation means within a client terminal (refer to drawing 11) draws up the goods specification as a components specification based on the information in this goods list 52. As mentioned above, a specification can be drawn up quickly and correctly also except the component part of a construction equipment.

[0075] The network built in order to realize the components specification creation system of this invention is not limited to what is shown in said operation gestalt, but is arbitrary. For example, as the minimum network, the client terminal by the side of a user should just be connected with the Network Server by the side of a manufacturer or a selling firm on-line.

[0076] Moreover, especially as a network terminal by the side of a user (client terminal), you may be a cellular phone, a Personal Digital Assistant (PDA), etc. which have other, for example, a browser, ability [personal computer]. According to such a terminal, this system can be effectively used through a network even from locations, such as a job site where the communication line or source power supply of a cable are not fixed.

[0077] Furthermore, the system of this invention is constituted from the Network Server and network terminal which were connected through the network, and also it is contained in invention of said claim 1 even if a stand-alone type computer realizes. Even in such a case, a components specification can be drawn up quickly and certainly using drawing data and components information in a database, and the purpose of this invention can be attained.

[0078] You may be the optical disk used in order to install a program on such a hard disk besides the hard disk which constitutes the storage means of a network server or a network terminal as a storage of this invention, and the storage of arbitration with which the computer program for performing this system was memorized is included.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, the case where the components specification of required components is attached as a request for quotation by the side of a user, or this components specification itself has constituted the gestalt of a request for quotation is common. Components information, such as a name of the components which are estimated objects, a lot number, and the number, is indicated by this components specification.

[0004] However, although a components specification is drawn up, it is necessary to investigate corresponding nomenclature, a lot number, etc. of components out of documents, such as a parts list which also attains to hundreds pages, and there is a problem that this activity takes great time and effort in it. Moreover, a construction equipment also has the problem that lot numbers differ, or the same components also have many digit counts of a lot number, and the selection mistake of a lot number and the copy mistake to a components specification tend to produce them a top with many similar lot numbers apparently, that many models with which specifications differ exist, and by consisting of many components extremely. And such a problem may be produced about the components of all fields, such as not only the components that constitute a construction equipment but other machines, an equipment and an automobile, a residence, leisure goods, and necessities.
[0005] The purpose of this invention is to offer the components specification creation system which can draw up a components specification quickly and correctly.

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MEANS

[Means for Solving the Problem] The components specification creation system of claim 1 of this invention A means to memorize the database built including the drawing data of the drawing in which components are shown, and the components information on said component, A means to call the drawing data of components required for creation of a components specification, and a means to display the drawing based on the drawing data concerned on a screen, A means to choose said component from the displayed drawings, and a means to call the components information corresponding to the drawing data of the selected components from said database, It is characterized by having the means which list-izes called components information and said screen is made to display on said drawing and coincidence, and a means to draw up said components specification automatically based on the list of this component. Here, image data is also contained in "drawing data." Therefore, the image by image data is also contained in a "drawing." It is the same as below also about the drawing data and the drawing of a publication.

[0007] In such the invention in this application, since what is necessary is just to choose components from on this drawing and to create a part list on a screen, after calling the drawing data memorized by the database and displaying the drawing of components on a display etc., it is not necessary to discover the lot number number of components from a document, or to post, and components specification creation comes to be performed quickly and correctly.

[0008] The components specification creation system of claim 2 is a system equipped with the Network Server and network terminal which were connected through the network. Said Network Server (A) A server side storage means by which the drawing name of the drawing in which components are shown, the drawing data of said drawing, and the components information on said component were memorized, (B) Drawing data corresponding to a drawing name acquisition means to acquire the drawing name of the arbitration chosen at said network terminal, and said drawing name which carried out (C) acquisition, An information retrieval means to retrieve the components information on the components drawn on the drawing of said drawing name from said server side storage means, (D) The searched drawing data and components information are outputted to said network terminal. It has an information output means to display the drawing based on the drawing data concerned on the display of said network terminal. And said network terminal (a) A terminal side storage means by which the drawing data outputted from said Network Server and said components information were memorized, (b) A drawing information acquisition means to acquire the drawing data about the selected components from on said drawing displayed on the indicating equipment, A part list creation means to retrieve the components information corresponding to the drawing data which carried out (c) acquisition from said terminal side storage means, (d) -- the part list output means which outputs the retrieved components information to said display, and is incorporated in said drawing, simultaneously the part list displayed, and (e) -- it is characterized by having a components specification creation means to draw up a components specification based on the components information in said part list.

[0009] The Network Server of such a configuration outputs the drawing data of the drawing which the user chose to the network terminal by the side of a user, and displays a drawing on screens, such as a network terminal, for example, a display etc. A user chooses required components with a header from the drawings on a screen, and chooses the corresponding components with a mouse etc. Then, a network terminal draws up a

components specification based on this list while displaying on a scope the components information which retrieved and retrieved components information based on the drawing data of the selected components as a part list.

[0010] Therefore, also in the actuation by the side of the above users, since what is necessary is just to choose required components, looking at the drawing on a screen in order to display a part list available as a components specification, there is no object for ** which treats a troublesome lot number etc. too, and a selection mistake and copy mistake of a lot number etc. are prevented. For this reason, components specification creation is performed quickly and correctly, and working efficiency's [, such as estimated business,] improves in connection with this. Moreover, by transmitting such a components specification to the Network Server on a network, it can also be possible to receive a components specification at the terminal by the side of a dealer or a manufacturer, and the activity of the estimate creation to a request for quotation etc. can also be efficiently done now.

[0011] In the components specification creation system of claim 3, said network terminal is characterized by having a duplex acquisition prevention means to acquire only the components information on said assembly component, when one components information of two or more components and the components information on the assembly components which consist of these components are chosen. Although two or more components which constitute assembly components are the so-called small components, small components will be chosen as a duplex when the components information on the assembly components in the high order of these is also chosen, in spite of having chosen the components information on these small components. Then, in this invention, when both the components information on small components and the components information on assembly components were chosen, it constituted so that only the selection by the side of assembly components might be received. Thereby, duplex acquisition of small components is prevented and creation and components arrangements of a positive components specification come to be performed.

[0012] While the price table which becomes said server side storage means from the price information for every components, and the inventory table which consist of inventory information for every components are memorized, in the components specification creation system of claim 4, said Network Server is characterized by to have the reply information reflection means which retrieves the price information and the inventory information about components on said components specification from said price table and an inventory table, and makes reflect in the components specification concerned. With such a configuration, inventory information and price information can perform now easily estimate creation for example, to an estimate request by making such information reflect in a components specification, in being easily acquired from the storage hand of a Network Server.

[0013] In the components specification creation system of claim 5, at least two sets are prepared and said Network Server is characterized by the thing whose communication ranges with said network terminal differ and for which a communication range of while is near and said network terminal accesses a Network Server. With such a configuration, since this system of each other is used between near network terminals and Network Servers of a communication range, a response becomes good and display speeds, such as a drawing, speed up. Moreover, since the Network Server of another side will function as a backup server even when one Network Server is downed if the same function as both servers is given, there is no fear of causing trouble to operating execution.

[0014] In the components specification creation system of claim 6, the near Network Server of a communication range is characterized by having an updating means to update drawing DETARU and/or components information on own, when the drawing data of the far Network Server of a communication range and/or the existence of modification of components information are supervised and there is modification. With such a configuration, also in the Network Server by the side of the short distance which a network terminal accesses, if a user chooses components from on a drawing, for example even when components information has modification since drawing data and components information are always updated by the newest thing, the newest components information on this component will be certainly listed by the part list.

[0015] In the components specification creation system of claim 7, said component is a component part of a construction equipment, there are many especially components mark, and it is more effective in a ** sake to

an operating improvement that components information, such as a lot number, also uses this system in the components of a confusing construction equipment.

[0016] While the components specification creation approach of claim 8 calls the drawing data of components required for creation of a components specification from the database built including the drawing data of the drawing in which components are shown, and the components information on said component After choosing said component from the drawings which were made to display the drawing based on the drawing data concerned on a screen, and were displayed, Call the components information corresponding to the drawing data of the selected components from said database, list-size called components information, said screen is made to display on said drawing and coincidence, and it is characterized by drawing up said components specification automatically based on the list of this component. Such a creation approach can be realized using said system according to claim 1 etc., and the purpose of this invention is attained.

[0017] The storage of claim 9 is characterized by memorizing the computer program which performs said components specification creation approach according to claim 8. The purpose of this invention is attained by performing the system of claim 1 using such a computer program.

[0018]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained based on a drawing. [Outline of a system] Drawing 1 is drawing showing typically the whole outline of the components specification creation system 1 concerning this operation gestalt. The components specification creation system 1 is a system which draws up the components specification of the components which constitute a construction equipment, and is used chiefly in the user who owns a construction equipment, and the selling firm which sells the construction equipment itself and its component. It is specifically used for drawing up the components specification at the time of a request for quotation and an order of the components to a selling firm to a user side, and is used for drawing up the components specification at the time of components order to the estimated reply and manufacturer to the request from a user in a selling firm side.

[0019] Such a components specification creation system 1 is realized using the computer network of the intranet 2 in a manufacturer which consists of a communication circuit network of dedication built in the construction machine builder, the same ***** intranet 3 built in the selling firm, and the Internet 4 grade using a public communication circuit network.

[0020] In the intranet 2 in a manufacturer, two or more ***** intranets 3 are connected with the host computer 20 by the side of a manufacturer. A host computer 20 functions as a Network Server on the intranet 2 in a manufacturer which supplies various information and data required as a components specification creation system 1. The network terminal by the side of two or more manufacturers who do not illustrate is connected to the intranet 2 in a manufacturer.

[0021] The ** Co. side server 30 as a Network Server, the network terminal 40 by the side of two or more users (henceforth a client terminal), and 40 -- are connected to the ***** intranet 3. The ** Co. side server 30 is also a server which supplies various information and data required as a components specification creation system 1, and is equipped with the same function as a host computer 20 and abbreviation. The network terminal for two or more selling firms which is not illustrated is connected also to such ***** intranet 3.

[0022] Here, a host computer 20 is a server with the far communication range from the client terminal 40, and the ** Co. side server 30 is a near server of a communication range. The client terminal 40 usually accesses the near ** Co. side server 30 of a communication range. That is, it is possible to use the components specification creation system 1 in the good condition of a response because the ** Co. side server 30 which exists at a short distance functions as the so-called clone server of a host computer 20.

[0023] This host computer 20, the ** Co. side server 30, and the client terminal 40 are equipped with the browser (viewer) which can respond to each network. Therefore, if it has use authentication of this system 1 and the browser of a parenthesis and the software for specification creation are installed, it is possible not to connect with each intranets 2 and 3, but to be able to access a host computer 20 and the ** Co. side server 30 through a provider, and to, use the components specification creation system 1 from client terminal 40' connectable only with the Internet 4 etc., for example.

[0024] Moreover, the host computer 20 and the ** Co. side server 30 also have the function of a mail server. E-mail software is installed in the terminal by the side of the manufacturer who was connected to each intranets 2 and 3 and who does not illustrate, the terminal by the side of a selling firm, and the client terminal 40, respectively, and it is possible to transmit and receive the components specification drawn up to each site between [between terminals] each site.

[0025] [** Co. side server] Below, the configuration and function of the ** Co. side server 30 which the client terminal 40 mainly accesses are explained previously first. An acquisition means 31 by which the ** Co. side server 30 acquires a signal from a network in drawing 2, The control means 32 which performs predetermined control according to the signal acquired with this acquisition means 31, It consists of an output means 33 to output the signal according to the result in a control means 32 to a network, a storage means 34 by which various information and data, and a program were accumulated, and a components specification carrier transmitting means 35 to transmit and receive the drawn-up components specification. Among these, the acquisition means 31, a control means 32, and the output means 33 consist of a computer program (software) performed by CPU etc., and especially the components specification carrier transmitting means 35 consists of e-mail software mentioned above.

[0026] The acquisition means 31 is equipped with the model name acquisition means 311, the model name acquisition means 312, the equipment name acquisition means 313, and the drawing name acquisition means 314 as a configuration characteristic of this operation gestalt. The control means 32 is equipped with the model retrieval means 321, the equipment retrieval means 322, the information retrieval means 323, and the updating means 324. The output means 33 is equipped with the model name output means 331, the model name output means 332, the equipment name output means 333, and the information output means 334. About the function of these means, it mentions later.

[0027] The storage means 34 consists of a hard disk as a storage etc., the contents indicated by the conventional parts list etc. are memorized by this storage means 34 as electronic intelligence, and as information characteristic of this operation gestalt, or data, as shown in drawing 3 R> 3 thru/or drawing 8, the model table 341, the model table 342, the equipment table 343, the drawing table 344, the components table 345, and the A'ssy table 346 are memorized. In addition, said each means 31, 32, 33, and 35 which are computer programs are also memorized by this storage means 34.

[0028] drawing 3 -- setting -- the model table 341 -- a "clay" "bulldozer small" "bulldozer -- large-sized -- the model name which divided construction equipments, such as --, roughly is stored. In drawing 4, the name of a model is stored in the model table 342 for said every model. For example, "in the model of hydraulic-excavator medium size", it is "PC100-6 S/N 40001-UP", "PC100L-6 S/N 15001-UP" -- A model exists.

[0029] In drawing 5, the name of the equipment which constitutes this for every model is stored in the equipment table 343. For example, the model of "PC100-6 S/N 40001-UP" is "a fuel tank and an associated part", and "electric system". -- It consists of equipment. In drawing 6, the name of two or more drawings with which said equipment was drawn, and the drawing data of each drawing are stored in the drawing table 344. For example, the equipment of "axle part" will be drawn on the drawing of two or more names called "truck shoe (HEIKATSU type)" and "truck shoe (triple grouser NAUKI)" (#31152) --. In addition, with this operation gestalt, drawing data are stored as a file of a bit map format.

[0030] In drawing 7, the lot number which is the components information on all the components drawn on said drawing, a name, the number, etc. are stored in the components table 345 corresponding to predetermined index information. for example, the components of "201-30-00291" and "201-30-72371" -- draw on the drawing of the name of "the track roller (#52374-)" in which the equipment of axle part is shown -- having -- **** -- respectively -- being alike -- the index information on "A" and "1" -- is given. In addition, in the components table 345, when there are components from which a lot number differs by the same name, it is the newest lot number to which index information is given, and the old watch is not given.

[0031] In drawing 8, the lot number and name of small components for every assembly components are stored in the A'ssy table 346. For example, "201-30-00291" shown also on said components table 345 is assembly components, and means the thing of "201-30-72371", "201-30-72371", and "201-30-72410" -- which consists of small components.

[0032] [Host computer] On the other hand, the host computer 20 has fundamentally the storage means 24 which consists of a hard disk as the same acquisition means 21 as the ** Co. side server 30 and abbreviation, a control means 22, the output means 23, and a storage etc., and the components specification carrier transmitting means 25 which is e-mail software like, as shown in drawing 9. In addition, the control means 22 of a host computer 20 is equipped with the reply information reflection means 221. About the function of the reply information reflection means 221, it mentions later.

[0033] Moreover, in addition to each of the same table as the ** Co. side server 30, the price table 241 shown in drawing 10 is memorized by the storage means 24. The price is stored in the price table 241 corresponding to the lot number and name of all components which constitute a construction equipment. Furthermore, the inventory table 242 (drawing 15) is memorized by the storage means 24. Although illustration is omitted, the number of inventories of the components which the manufacturer holds is stored in the inventory table. However, the storage means 34 of the ** Co. side server 30 may be made to memorize such the price table 241 and the inventory table 242 if needed. In addition, said each means 21, 22, 23, and 25 which are computer programs are also memorized by this storage means 24.

[0034] Whenever each table within such a storage means 24 has modification of information and data, it is updated, and the newest contents are always stored. For example, when the lot number of components is changed, while the lot number in a components table is changed into the newest number, from the lot number used as the old watch, index information is removed and, instead, it is given to the newest lot number. Moreover, when the configuration of components is changed, the drawing data of the corresponding components are updated.

[0035] [Client terminal] The client terminal 40 has the function which draws up a components specification based on this information and data, and consists of a personal computer etc. while it acquires the information and data of required components through a network. Specifically, the client terminal 40 is equipped with the acquisition means 41, the control means 42, the output means 43, the storage means 44 that consists of a hard disk as a storage etc., and the components specification carrier transmitting means 45 which is e-mail software. In addition, the network terminal by the side of the manufacturer who does not illustrate, and a selling firm is also the same configuration as abbreviation.

[0036] The acquisition means 41 is equipped with the information acquisition means 411 and the drawing information acquisition means 412 as a characteristic configuration in this operation gestalt. The control means 42 is equipped with the information write-in means 421, the part list creation means 422, the duplex acquisition prevention means 423, and the components specification creation means 424. The output means 43 is equipped with the part list output means 431 and the components detail write-out force means 432. The information table 441 of the contents shown in drawing 12 will be memorized by the storage means 44. Moreover, said each means 41, 42, 43, and 45 which are computer programs are also memorized by this storage means 24. About the function and the information table 441 of each means, it mentions later.

[0037] [Creation of the components specification by the user and transmission] The flow of the whole components specification creation which used this system 1 is divided into two or more blocks, and is shown in drawing 13. The flow chart of the main strokes of components specification creation is shown in drawing 14 and drawing 15. The contents displayed on display 40A which is the indicating equipment of the client terminal 40 are shown in drawing 16 thru/or drawing 24. while explaining the creation procedure of a components specification also with reference to these drawings below -- this procedure -- meeting -- the ** Co. side server 30 -- each -- the function of means 311-314,321-324,331-334, the reply information reflection means 221 of a host computer 20, and each means 411,412,421-424,431,432 of the client terminal 40 is also explained.

[0038] First, in the block ("a block" is expressed in explanation of in drawing and the following as "BL") 1 shown in drawing 13, if this system 1 is started, the model name output means 331 of the ** Co. side server 30 will call the model name of a construction device from the model table 341 within the storage means 34, and as shown in drawing 16, it will display it on display 40A of the client terminal 40.

[0039] According to this, a user chooses whether components to come to hand are used for which model using mouse 40B which is an input unit. The condition of having chosen the "hydraulic-excavator medium

size" is shown by drawing 16. In the ** Co. side server 30 side, the signal with which the information on a "hydraulic-excavator medium size" was supported is acquired with the model name acquisition means 311. And the model retrieval means 321 of a control means 32 searches and calls the model name corresponding to the acquired model name from the model table 342. Furthermore, the model name output means 332 outputs the called model name to the client terminal 40, and as shown in drawing 17, it displays it on display 40A of the client terminal 40 hierarchical.

[0040] A user chooses whether components are used for which model. The condition of having chosen "PC300-6 S/N 30001-UP" as a model is shown by drawing 17. In the ** Co. side server 30 side, the signal with which the information on "PC300-6 S/N 30001-UP" was supported is acquired with the model name acquisition means 312. And the equipment retrieval means 322 searches and calls the equipment name corresponding to the acquired model name from the equipment table 343. The equipment name output means 333 outputs the called equipment name to the client terminal 40, and as shown in drawing 18, it displays it on display 40A.

[0041] if the components to need are ***** about axle part equipment, a user will choose "axle part" on a screen. In the ** Co. side server 30 side, the signal with which this information was supported is acquired with the equipment name acquisition means 313. The information retrieval means 323 searches only the name of the drawing with which the corresponding equipment was drawn from the drawing table 344, and is called. The information output means 334 outputs the called drawing name to the client terminal 40, and as shown in drawing 19, it displays it on display 40A.

[0042] A user chooses the drawing name of "the track roller (#52374)" with which required components are drawn. The drawing name acquisition means 314 of the ** Co. side server 30 acquires the signal with which "the track roller (#52374)" which is a drawing name was supported, and the information retrieval means 323 searches the drawing data which correspond from the drawing table 344, and it calls it. Then, the information output means 334 displays a drawing 50 for ***** on drawing data, as the drawing data concerned are outputted to the client terminal 40 and shown in the left-hand side in drawing 20.

[0043] Furthermore, in the ** Co. side server 30 side, if a drawing name "a track roller (#52374)" is acquired with the drawing name acquisition means 314, the information retrieval means 323 will retrieve and call the index information corresponding to this drawing name, a lot number, a name, and the components information on number -- from the components table 345. the information output means 334 -- call appearance -- the bottom -- each information -- the client terminal 40 -- outputting -- the right in drawing 20 -- as shown in the middle, it displays as the drawing 50 mentioned above, simultaneously Table 51. Under the present circumstances, the sign given to each part article in a drawing 50 is in agreement with the index information given to each lot number in Table 51.

[0044] The stroke so far is performed to the Lord of the client terminal 40 by the function of a browser between the ** Co. side servers 30. The stroke of the continuing following is performed to the Lord installed in the client terminal 40 by components specification creation software (each means 422-424,431,432) by this client terminal 40 independent one.

[0045] First, as shown also in step (a "step" is expressed as "ST" in explanation of in drawing and the following) 1 of drawing 14, in the client terminal 40 side, it acquires with said drawing data outputted from the ** Co. side server 30, index information and a lot number, a name, and an information acquisition means 411 of number -- to constitute the acquisition means 41 of the client terminal 40 for components information. The information write-in means 421 of a control means 42 is memorized for the storage means 44 by using these information and data as the information table 441, as shown in drawing 12. Under the present circumstances, drawing data are memorized as a bitmap file for every components.

[0046] Then, the part list creation means 422 of a control means 42 outputs the template of the list beforehand memorized by the storage means 44 to display 40A through the part list output means 431, and as shown in the lower right stage in drawing 20, it displays it on coincidence as the drawing 50 and Table 51 which were mentioned above by using this list as a part list 52. Even the above is the stroke of BL1 of drawing 13.

[0047] In BL2 of drawing 13, a user chooses the sign to which the components needed were given by a

header and this component from the displayed drawing 50 by mouse 40B. However, a part for the line part which shows components may be chosen. The condition of having chosen the components of a sign "2" is shown by drawing 20. Under the present circumstances, it is desirable to make the components selection which made intelligible the components which, and the foreground color of (drawing 20 R>0), a sign, a leader line, and components was changed, or the shade of brightness was changed, displayed, and were chosen, and overlapped prevent. [surrounding the sign of the selected components by "O"]

[0048] The drawing information acquisition means 412 of the client terminal 40 acquires the drawing data of the components containing the selected sign "2." In BL3, the part list creation means 422 searches and calls the lot number of the components corresponding to the acquired drawing data, a name, the number, etc. from the information table 441. The part list output means 431 outputs the called components information to the client terminal 40, and incorporates it into a part list 52. Under the present circumstances, the part list output means 431 in this operation gestalt also has the function to prepare cel parts, such as a function on which an application number machine, a model name, etc. are displayed, and a "unit price", the "amount of money", in a part list 52. -- (ST2 completion by drawing 14)

[0049] In BL6 and BL7, the duplex acquisition prevention means 423 of the client terminal 40 checks whether the user has chosen both assembly components and the small components which constitute this. If a user chooses both assembly components and small components and incorporates in a part list 52, the problem that small components overlap and are chosen will arise. Then, when such selection is made, the duplex acquisition prevention means 423 eliminates the selected small components from a part list 52, leaves only assembly components, and prevents duplex acquisition of small components.

[0050] For example, if the sign "A" of the assembly components constituted including this component is chosen on a drawing 50 after choosing a sign "2" from the inside of a drawing 50 and displaying components information, such as a lot number "211-30-72410", in a part list 52 From the inside of a part list 52, components information, such as a lot number "211-30-72410" which are small components, is eliminated, and components information [on the assembly components concerning a sign "A"], i.e., lot number, "201-30-00291" and name "truck roller assembly" -- remains, and is displayed.

[0051] A components specification is drawn up in BL8. When the screen in the client terminal 40 is in the condition which shows in drawing 20, a user chooses "a transfer to a specification and a selling firm" in the memorandum displayed above Table 51. Then, the components specification creation means 424 calls the template of a components specification from the storage means 44, and displays the components detail write-out force means 432 as a components specification 60 which shows this template to drawing 21. Let the inside of each cel of the components specification 60 be a blank in this phase. Next, a user chooses "data incorporation (R)" from the menu bar on a screen. In response, the components specification creation means 424 calls the components information displayed in the part list 52 like the point, and the components detail write-out force means 432 displays this components information in the components specification 60. And a user inputs need matters, such as the creation date of the components specification 60, and an implementer, into a predetermined cel, and completes the components specification 60. -- (completion of ST3)

Furthermore, it progresses to degree stroke as a user mode succeedingly from creation of the components specification 60 being performed by the user side. -- (completion of ST4)

[0052] In BL9 and BL10, the components specification 60 drawn up by BL8 is printed if needed, it leaves as a document and the components specification 60 is saved at a hard disk etc. Printing of the components specification 60 chooses a "file" from the menu bar of the screen displayed on drawing 21, and should just choose the menu of printing from the displayed pull down menu. The preview screen of the components specification 60 printed by the user side is shown in drawing 22. -- (completion of ST5 and ST6)

[0053] On the other hand, when an estimate is requested or a user orders components to a selling firm in BL11-BL13 (order), the components specification carrier transmitting means 45 which consists of e-mail software is started. The components specification carrier transmitting means 45 transmits the components specification 60 to the address of a selling firm set up in the ** Co. side server 30, and saves a transmitting log in a terminal 40. -- (completion of ST8)

[0054] [Flow on the components detail dictation treatment by the side of a selling firm and a manufacturer]

Below, the handling of the components specification by the side of a selling firm and a manufacturer is successively explained with reference to drawing 13 – drawing 15 . In BL14 of drawing 13 , by the selling firm side, the terminal connected to the ***** intranet 3 is operated, the components specification 60 is received from the selling firm side server 30, and in BL15, as shown in drawing 23 , the components specification 60 is displayed on a display. When the components specification 60 is received as an object for the requests for quotation from a user side, in this phase, the unit price of components, the amount of money, the time-for-delivery information by the existence of an inventory, etc. are not inputted in the components specification 60. Next, in a selling firm, selection “online screen write-in (W)” is made from the menu bar on the screen of drawing 23 . In response, the terminal by the side of a selling firm transmits the components specification 60 to the host computer 20 by the side of a manufacturer through bridge software. -- (completion of ST9)

[0055] In BL16 and BL17, the components specification 60 is first received through bridge software with the host computer 20 by the side of a manufacturer. And the reply information reflection means 221 of a control means 22 retrieves and calls the information concerning the price and the number of inventories of components corresponding to the components information in the components specification 60 from the price inventory table 241 and 242 within the storage means 24, and is made to reflect it in the components specification 60. -- (completion of ST10)

Then, a host computer 20 returns the components specification 60 into which the information on all abbreviation was inputted to the ** Co. side server 30 through bridge software. -- (completion of ST11 in drawing 15)

[0056] Again, in BL15, after receiving the components specification 60 and displaying like drawing 23 (the unit price of components, the amount of money, and the time-for-delivery information by the existence of an inventory are incorporated in this phase), need matters, such as the creation date and an implementer, are inputted in a selling firm. -- (completion of ST12)

Subsequently, in BL18 and BL19, the need for printing of the components specification 60 is judged, if required, it will print, and the components specification 60 is saved. The preview screen of the components specification 60 printed by the selling firm side is shown in drawing 24 . Such printing and preservation can be carried out like actuation with the client terminal 40 by the side of a user. -- (completion of ST12-ST15) next -- or after judging that said printing is unnecessary, in BL20 and BL21, a selling firm transmits to a user side with a transceiver means (e-mail), using the components specification 60 as an object for the estimates by the side of a user. In such a case, what is necessary is to specify a user's origination address and just to transmit. On the other hand, when sending the components specification 60 by mail etc. separately, the data of the components specification 60 are saved that what is necessary is just to send the printed components specification 60. -- (completion of ST16-ST20)

[0057] Next, if satisfactory after a user side examines the amount of money and time-for-delivery information which were indicated by the components specification 60 of this estimate especially, it will broadcast the components specification 60 concerned again to a selling firm as an object for the order sheets of components. This transmitting procedure is performed by the same actuation explained by BL11-BL13. And since information, such as the amount of money, is already indicated by the components specification 60 in the selling firm which receives by BL14, in BL22, a selling firm transmits the components specification 60 to a host computer 20, and places an order with it for components to a manufacturer. The transfer procedure of the components specification 60 in this case is the same as the transfer procedure from a user side to a selling firm (see the explanation of BL11-BL13). -- (completion of ST21 in drawing 14)

[0058] In addition, in [of components] possessing an inventory in a selling firm and also performing a setup of a price etc. in a selling firm Since it is not necessary to access a host computer 20 and to acquire the information on the number of inventories, or a price to the request for quotation by the side of a user That what is necessary is just to perform an estimated reply to a user side using said a selling firm's own price and inventory information, after receiving the order sheet of components from a user side What is necessary is to ship the components under inventory by self to a user side, and just to deliver them, since it is not necessary to order components from a manufacturer side (mind of “dispatch” of BL22).

[0059] By the way, in order to raise the dependability of components etc., the configuration, quality of the

material, etc. may be changed a little. And a manufacturer side performs renewal of the drawing data and the lot number accompanying this modification about the drawing table and components table in a host computer 20. Such updating is supervised with the updating means 324 of the ** Co. side server 30. If updating with a host computer 20 accomplishes, the updating means 324 will download automatically the information and data which were updated, and will update the contents of the drawing components table 344 and 345 of the ** Co. side server 30.

[Translation done.]

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2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the mimetic diagram showing the whole outline of the components specification creation system concerning 1 operation gestalt of this invention.

[Drawing 2] It is the block diagram showing a ** Co. side server.

[Drawing 3] It is the mimetic diagram showing the model table memorized by the ** Co. side server.

[Drawing 4] It is the mimetic diagram showing the model table memorized by the ** Co. side server.

[Drawing 5] It is the mimetic diagram showing the equipment table memorized by the ** Co. side server.

[Drawing 6] It is the mimetic diagram showing the drawing table memorized by the ** Co. side server.

[Drawing 7] It is the mimetic diagram showing the components table memorized by the ** Co. side server.

[Drawing 8] It is the mimetic diagram showing the A'ssy table memorized by the ** Co. side server.

[Drawing 9] It is the block diagram showing a host computer.

[Drawing 10] It is the mimetic diagram showing the price table memorized by the host computer.

[Drawing 11] It is the block diagram showing a client terminal.

[Drawing 12] It is the mimetic diagram showing the information table memorized by the client terminal.

[Drawing 13] It is drawing showing the flow after creation of a components specification, and creation with a block.

[Drawing 14] It is the flow chart which shows the flow of the main strokes of a components specification.

[Drawing 15] It is the flow chart which shows a continuation of drawing 14.

[Drawing 16] It is drawing showing the screen where the model of a construction equipment was displayed.

[Drawing 17] It is drawing showing the screen where the model name was displayed.

[Drawing 18] It is drawing showing the screen where the equipment name was displayed.

[Drawing 19] It is drawing showing the screen where the drawing name was displayed.

[Drawing 20] It is drawing showing the screen for components selection.

[Drawing 21] It is drawing showing the screen where the components specification by the side of a user was displayed.

[Drawing 22] It is drawing showing the preview screen of the components specification printed by the user side.

[Drawing 23] It is drawing showing the screen where the components specification by the side of a selling firm was displayed.

[Drawing 24] It is drawing showing the preview screen of the components specification printed by the selling firm side.

[Drawing 25] It is drawing showing the screen where the goods name concerning the modification of this invention was displayed.

[Drawing 26] It is drawing showing the screen where the drawing name of said modification was displayed.

[Drawing 27] It is drawing showing the screen for goods selection in said modification.

[Description of Notations]

1 Components Specification Creation System

2 Intranet in Manufacturer

3 ***** Intranet
4 Internet
20 Host Computer Which is Network Server
24 Server (Host Computer) Side Storage Means
30 ** Co. Side Server Which is Network Server
34 Server Side Storage Means
40 Client Terminal Which is Network Terminal
44 Terminal Side Storage Means
50 Drawing
52 Part List
53 Goods List Which is Part List
60 Components Specification
221 Reply Information Reflection Means
241 Price Table
242 Inventory Table
314 Drawing Name Acquisition Means
321 Information Retrieval Means
324 Updating Means
334 Information Output Means
344 Drawing Table
345 Components Table
412 Drawing Information Acquisition Means
422 Part List Creation Means
423 Duplex Acquisition Prevention Means
424 Components Specification Creation Means
431 Part List Output Means

[Translation done.]

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3. In the drawings, any words are not translated.

DRAWINGS

[Drawing 3]

モデル名称
クレー
ブルドーザ小型
ブルドーザ大型
ブルドーザ中型
ホイールローダ小型
ホイールローダ大型
ホイールローダ中型
油圧ショベル小型
油圧ショベル大型
油圧ショベル中型

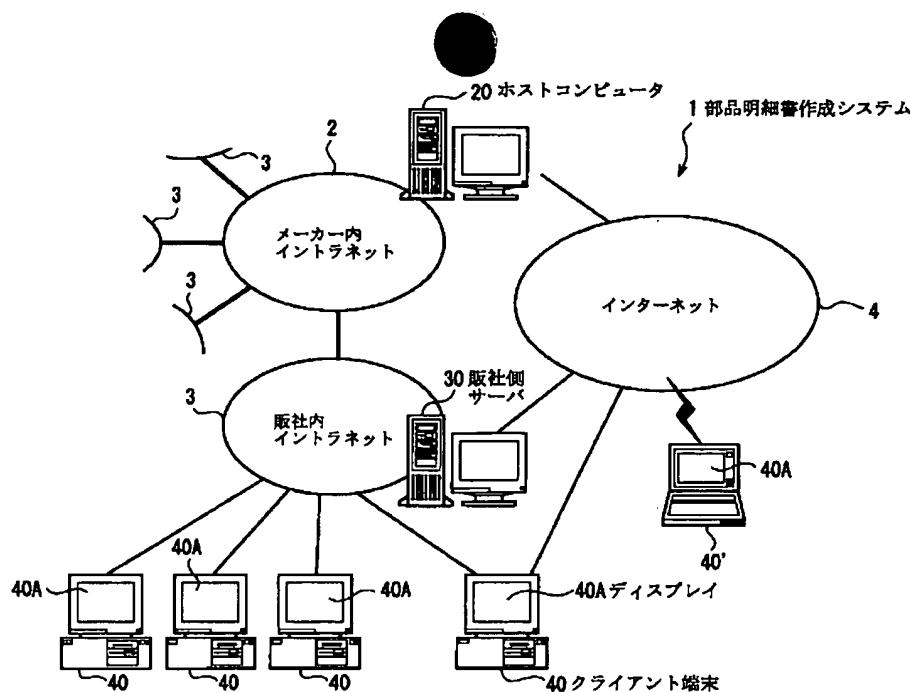
341 モデルテーブル

[Drawing 10]

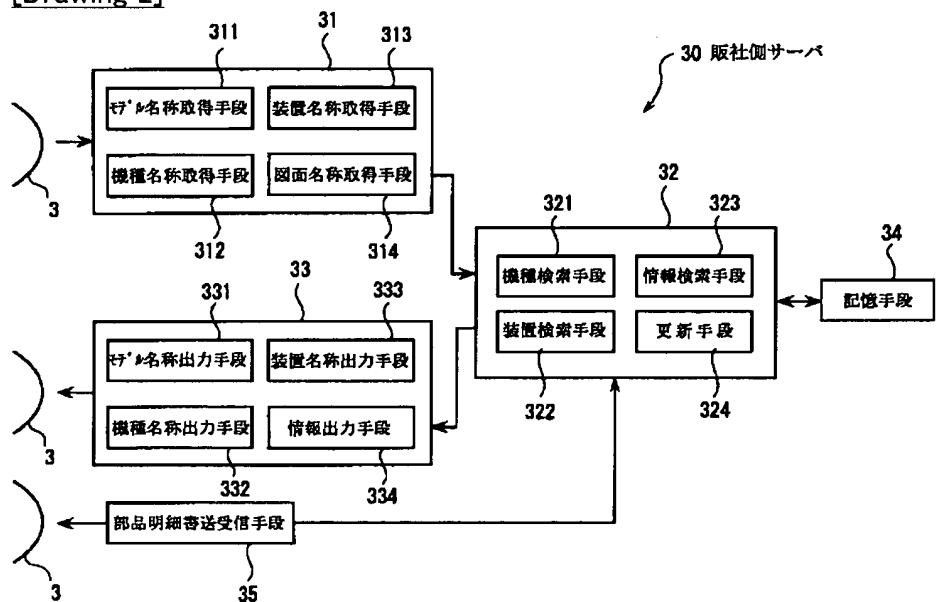
価格		
品番	品名	単価
201-32-71110	シュー、トラッカ、リフ'ア	4,220
112-32-11221	ナット、シュー(KIT)	0
101-32-11271	ショベルアーム	160
201-32-71140	ブレキ、リフ'ア	1,190
201-32-51130	リフ'ア、トラッカ、ギ'	1,570
:	:	:

241 価格テーブル

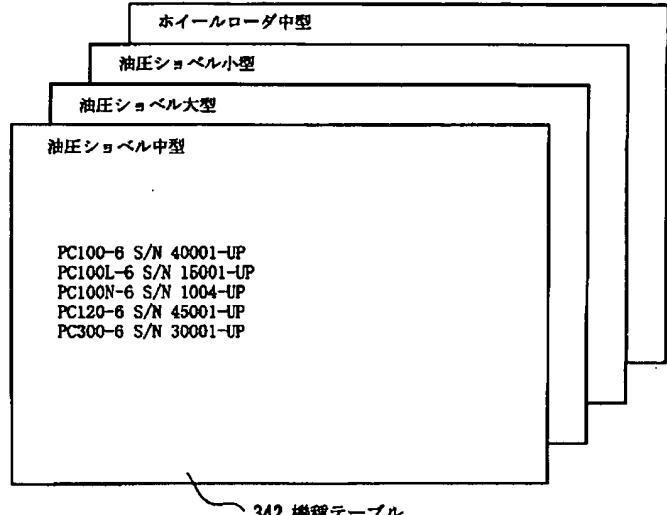
[Drawing 1]



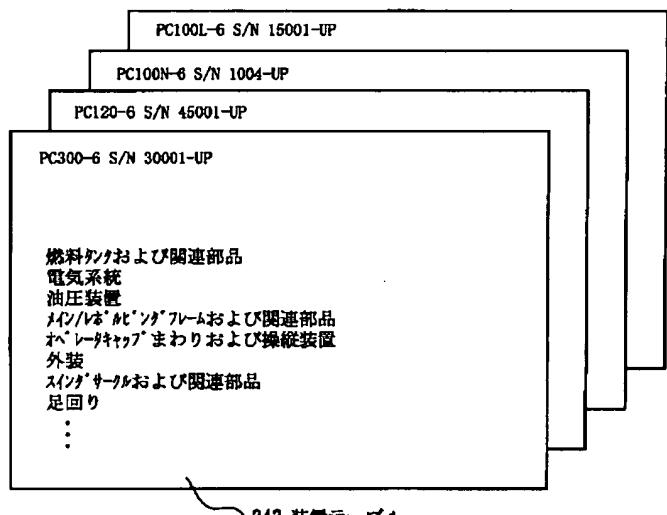
[Drawing 2]



[Drawing 4]



[Drawing 5]



[Drawing 6]

オペレータキャップまわりおよび換気装置
外装
スイントーカおよび関連部品
足回り

図面名称	図面データファイル
トラック シュー(ハイカウ タイプ)	.bmp
トラック シュー(トリブル グローブ アナ タイ) (#31162-)	.bmp
トラック フレーム (#30001-32999)	.bmp
トラック フレーム (#33001-)	.bmp
トラック フレーム(アンダーカバー ヨウ) (#33001-)	.bmp
トラック ローラ (#52374-)	.bmp
フル ローラ カート	.bmp
センタ カート	.bmp

344 図テーブル

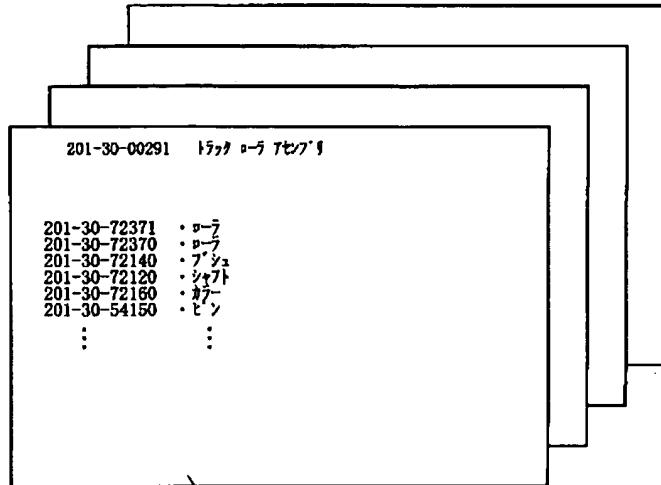
[Drawing 7]

トラック フレーム (#33001-32999)
トラック フレーム (#33001-)
トラック フレーム(アンダーカバー ヨウ) (#33001-)
トラック ローラ (#52374-)

インデックス	品番	品名	個
A	201-30-00291	トラック ローラ アセンブリ	1
	201-30-00290	トラック ローラ アセンブリ	1
1	201-30-72371	・ローラ	1
	201-30-72370	・ローラ	1
2	201-30-72140	・アーム	1
3	201-30-72120	・サイド	1
4	201-30-72160	・カバー	1
5	201-30-54150	・ビン	1
:	:	:	

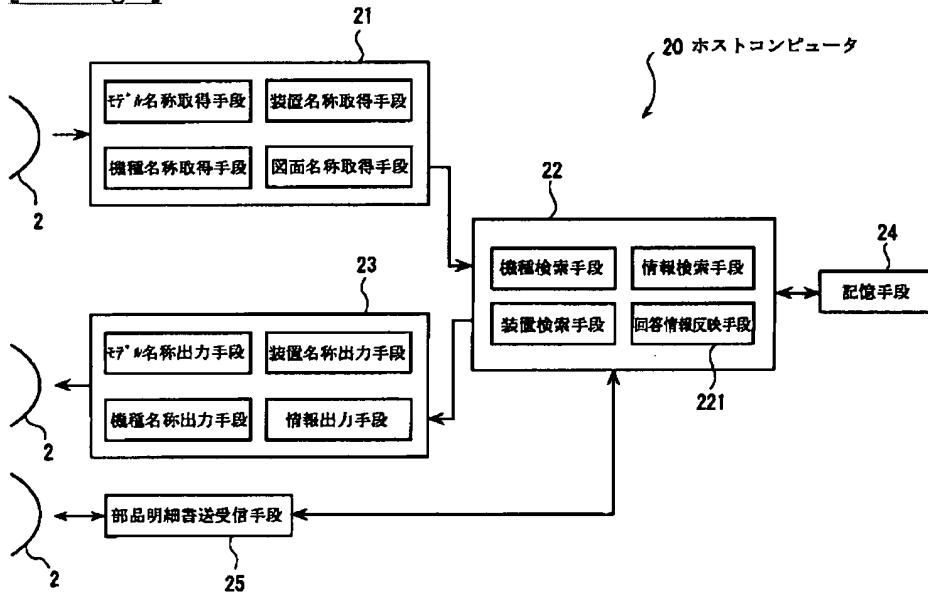
345 部品テーブル

[Drawing 8]



346 Assyテーブル

[Drawing 9]

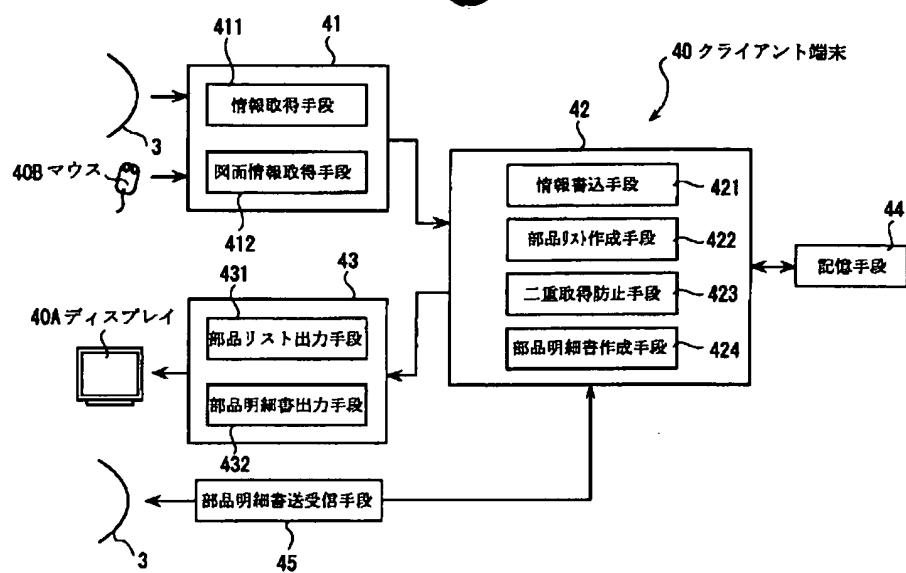


[Drawing 12]

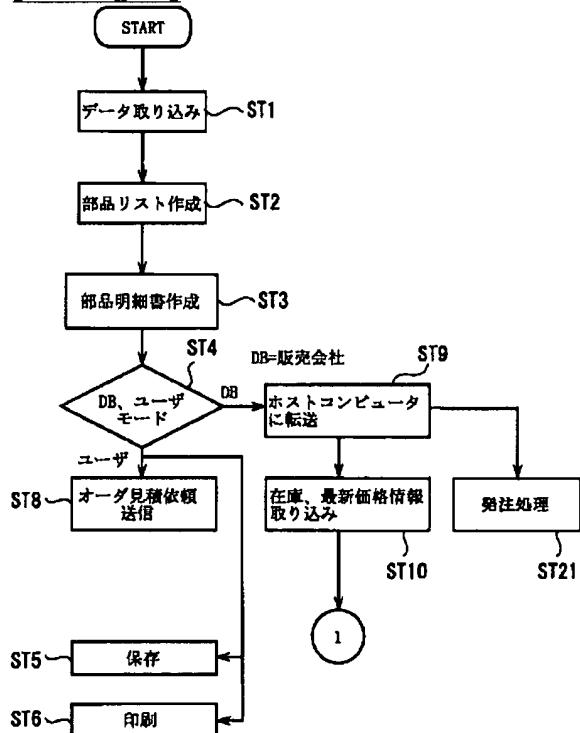
インデックス	品番	品名	図面データファイル
A	201-30-00291	トラック ポーラ アセンブリbnd
1	201-30-00290	トラック ポーラ アセンブリbnd
2	201-30-72371	: ポーラbnd
3	201-30-72370	: ポーラbnd
4	201-30-72140	: アシストbnd
5	201-30-72120	: シャフトbnd
6	201-30-72160	: カバーbnd
⋮	⋮	⋮	⋮

441 情報テーブル

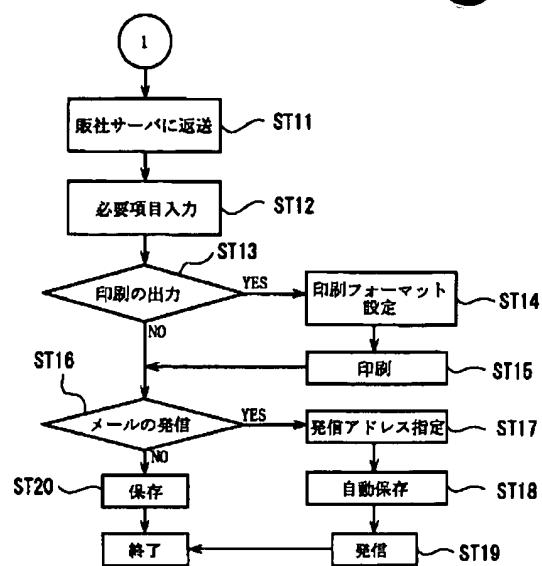
[Drawing 11]



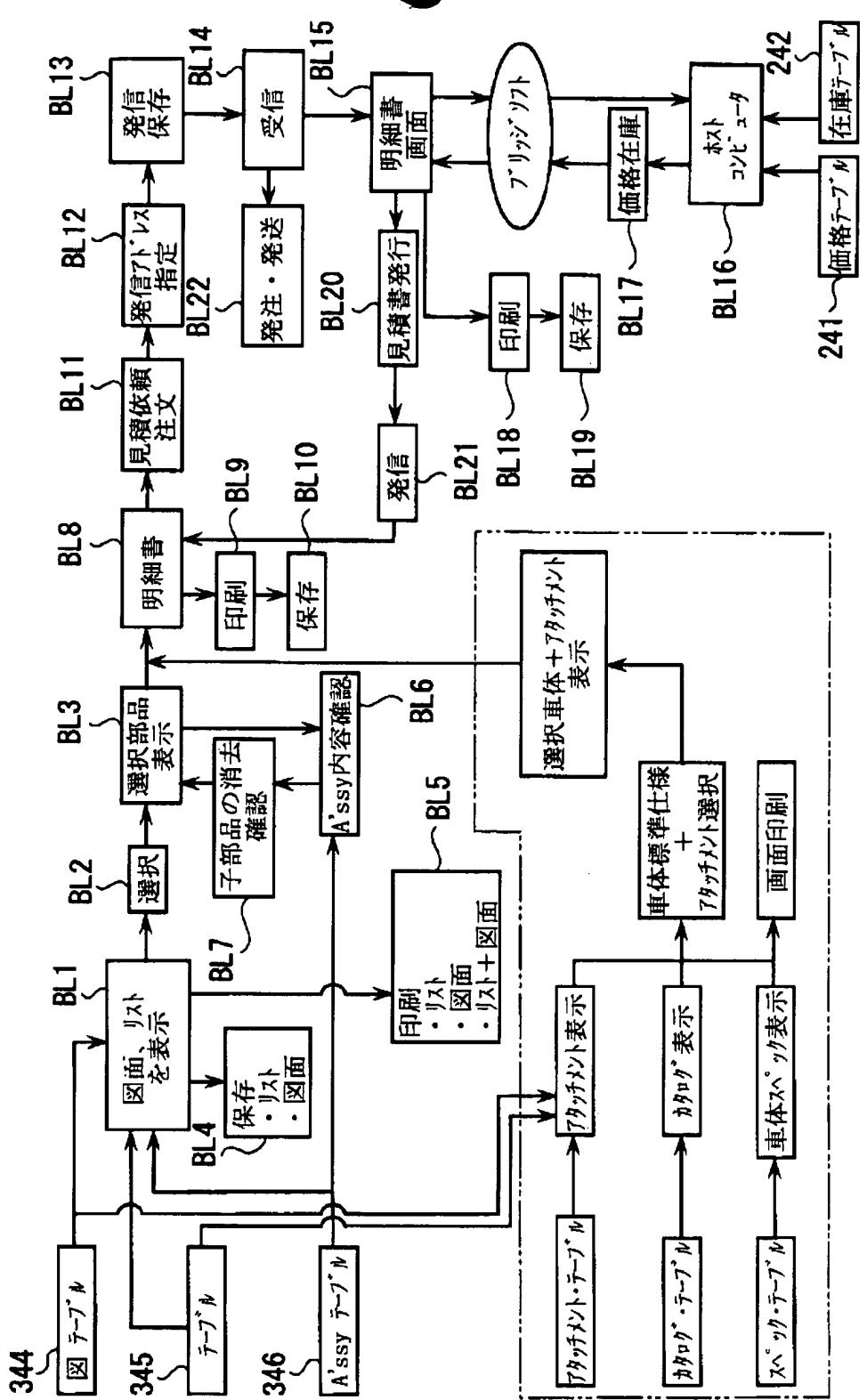
[Drawing 14]



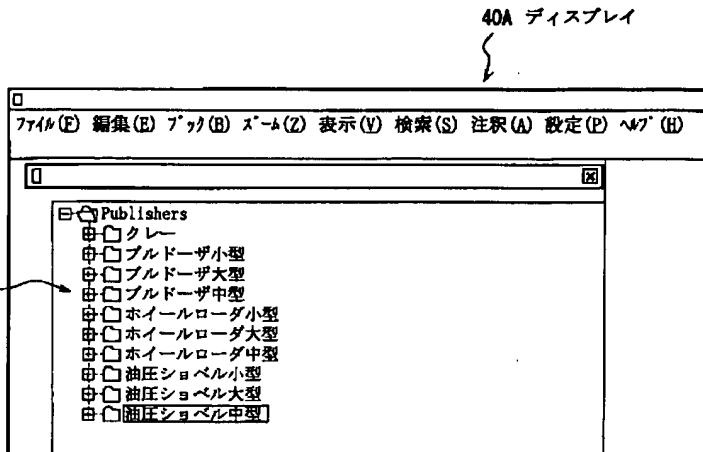
[Drawing 15]



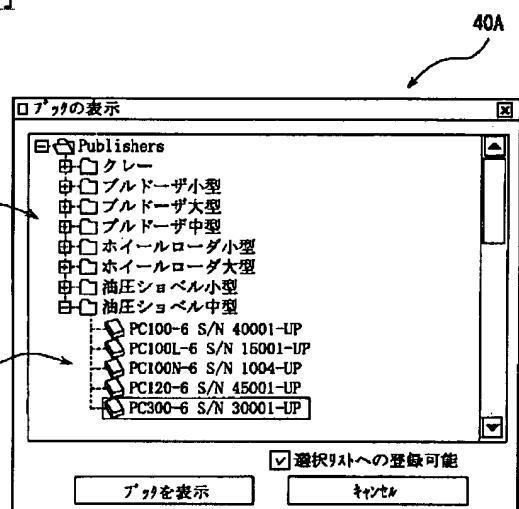
[Drawing_13]



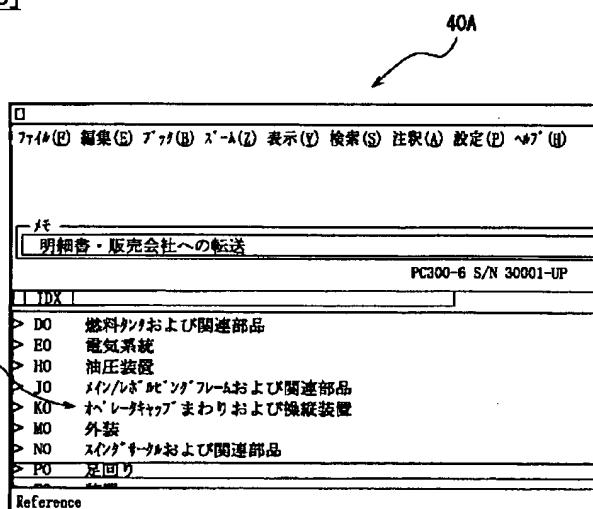
[Drawing 16]



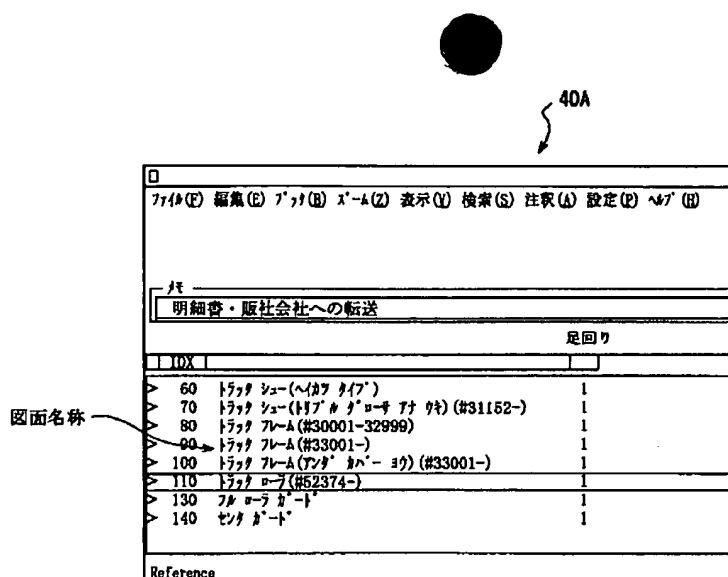
[Drawing 17]



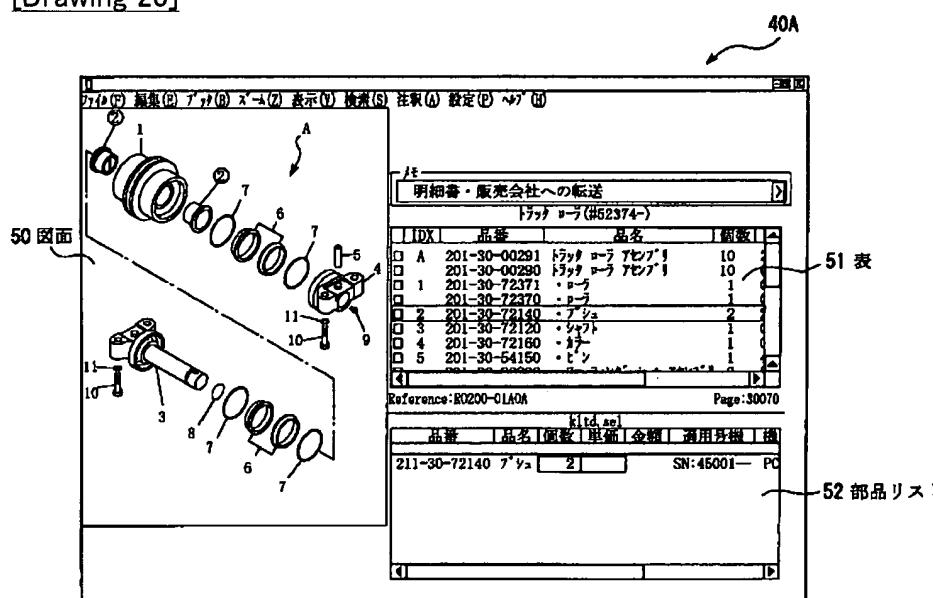
[Drawing 18]



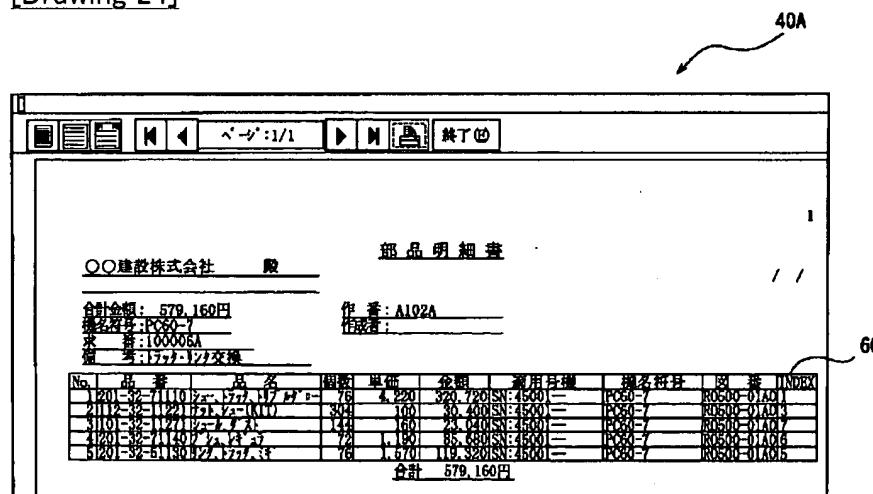
[Drawing 19]



[Drawing 20]



[Drawing 24]



[Drawing 21]

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部品明細書(取り込み品リスト)

ファイル② データ取り込み③ オラクル面書き込み④ 面書き込み中止⑤ 終了⑥

品番	品名	個数	単価	金額	適用号機	旧品番	コード
201-32-71110	ショートラックトライア	76			SN:45001-		
112-32-11221	ショートラックKIT	304			SN:45001--		
101-32-11271	ショートラックスト	144			SN:45001--		
201-32-71140	ショートラック	72			SN:45001--		
201-32-51130	ショートラックキット	76			SN:45001--		
合計							
機名符号: PC60-7 合計:							
機番:							
日付: / / 販社先1:							
作成者: 作番 販社先2:							
備考:							

[Drawing 22]

40A

部品明細書

OO版壳株式会社 東京支店 ×△ OO

合計金額: 円 作番: A102

機名符号: PC60-7 机番:

機番: 100006

備考: 2006年1月22日交換

No.	品番	品名	個数	単価	金額	適用号機	機名符号	国	品番	INDEX
1	201-32-71110	ショートラックトライア	76			SN:45001-	PC60-7	RO500-01A01		
2	112-32-11221	ショートラックKIT	304			SN:45001-	PC60-7	RO500-01A03		
3	101-32-11271	ショートラックスト	144			SN:45001-	PC60-7	RO500-01A07		
4	201-32-71140	ショートラック	72			SN:45001-	PC60-7	RO500-01A08		
5	201-32-51130	ショートラックキット	76			SN:45001-	PC60-7	RO500-01A06		
合計 円										

[Drawing 23]

[Drawing 25]

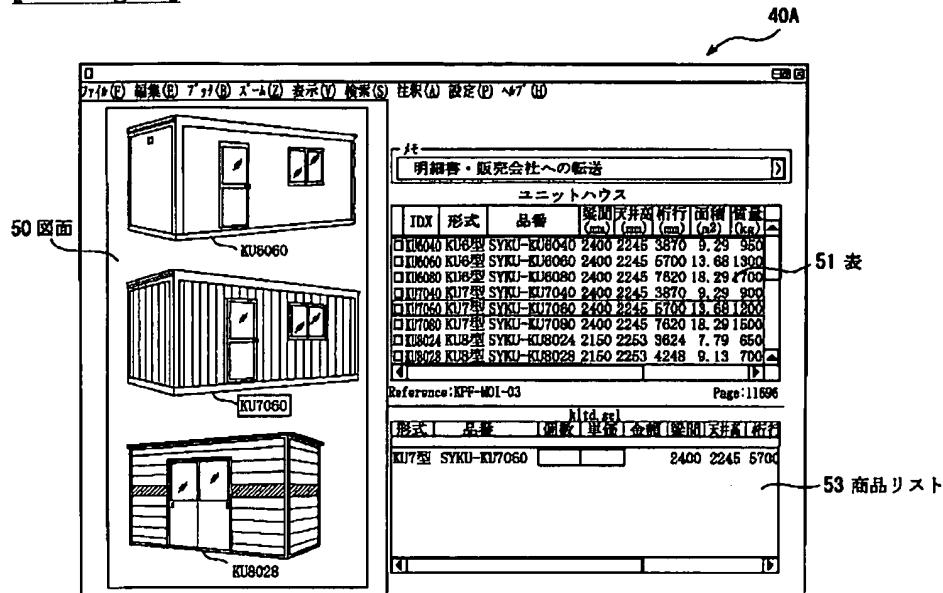
明細書・販売会社への転送

- > コンクリート関連機材
- > 土留配管関連
- > 鉄筋・鉄板加工機
- > 農林園芸関連
- > 換気・空調
- > 掃除機
- > ハウス
- > 電動・エアー工具

[Drawing 26]

明細書・販社会社への転送	ハウス
<ul style="list-style-type: none"> > スチール製物置（標準型） > スチール製物置（薄型シリーズ） > ユニットハウス > システムユニットハウス > モノボックス > 簡易トイレ用凍結防止・消臭剤 	

[Drawing 27]



[Translation done.]